AMD® RS690E Socket AM2

Mini ITX Motherboard

MX690E2

User's Manual

http://www.bcmcom.com

Note: Manual Subject to change without notice

FCC Statement

THIS DEVICE COMPLIES WITH PART 15 FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:

(1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE.

(2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.

THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS "A" DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES. THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND, IF NOT INSTATLLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS.

OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE IN WHICH CASE THE USER WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT HIS OWN EXPENSE.

Notice

This guide is designed for experienced users to setup the system within the shortest time.

For detailed information, please always refer to the electronic user's manual.

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We want you to get the maximum performance from your products. So if you run into technical difficulties, we are here to help. For the most frequently asked questions, you can easily find answers in your product documentation. These answers are normally a lot more detailed than the ones we can give over the phone. So please consult the user's manual first.

To receive the latest version of the user's manual; please visit our Web site at:

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If you still cannot find the answer, gather all the information or questions that apply to your problem, and with the product close at hand, call your dealer. Our dealers are well trained and ready to give you the support you need to get the most from your BCM products. In fact, most problems reported are minor and are able to be easily solved over the phone.

In addition, free technical support is available from BCM engineers every business day. We are always ready to give advice on application requirements or specific information on the installation and operation of any of our products. Please do not hesitate to call or e-mail us.

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BCM warrants to you, the original purchaser, that each of its products will be free from defects in materials and workmanship for one year from the date of purchase.

This warranty does not apply to any products which have been repaired or altered by persons other than repair personnel authorized by BCM, or which have been subject to misuse, abuse, accident or improper installation. BCM assumes no liability under the terms of this warranty as a consequence of such events. Because of BCM high quality-control standards and rigorous testing, most of our customers never need to use our repair service. If any of BCM products is defective, it will be repaired or replaced at no charge during the warranty period. For out-of-warranty repairs, you will be billed according to the cost of replacement materials, service time, and freight. Please consult your dealer for more details. If you think you have a defective product, follow these steps:

1. Collect all the information about the problem encountered. (For example, CPU type and speed, BCM products model name, hardware & BIOS revision number, other hardware and software used, etc.) Note anything abnormal and list any on-screen messages you get when the problem occurs.
2. Call your dealer and describe the problem. Please have your manual, product, and any helpful information available.
3. If your product is diagnosed as defective, obtain an RMA (return material authorization) number from your dealer. This allows us to process your good return more quickly.
4. Carefully pack the defective product, a complete Repair and Replacement Order Card and a photocopy proof of purchase date (such as your sales receipt) in a shippable container. A product returned without proof of the purchase date is not eligible for warranty service.
5. Write the RMA number visibly on the outside of the package and ship it prepaid to your dealer.

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Safety Information

Electrical safety

- To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before relocating the system.
- When adding or removing devices to or from the system, ensure that the power cables for the devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you add a device.
- Before connecting or removing signal cables from the motherboard, ensure that all power cables are unplugged.
- Seek professional assistance before using an adapter or extension cord. These devices could interrupt the grounding circuit.
- Make sure that your power supply is set to the correct voltage in your area. If you are not sure about the voltage of the electrical outlet you are using, contact your local power company.
- If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your retailer.

Operation safety

- Before installing the motherboard and adding devices on it, carefully read all the manuals that came with the package.
- Before using the product, make sure all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.
- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.
- Avoid dust, humidity, and temperature extremes. Do not place the product in any area where it may become wet.
- Place the product on a stable surface.
- If you encounter technical problems with the product, contact a qualified service technician or your retailer.

The symbol of the crossed out wheeled bin indicates that the product (electrical and electronic equipment) should not be placed in municipal waste. Check local regulations for disposal of electronic products.

Technical Support

If a problem arises with your system and no solution can be obtained from the user's manual, please contact your place of purchase or local distributor. Alternatively, please try the following help resources for further guidance. Visit the BCM website for FAQ, technical guide, BIOS updates, driver updates, and other information.

Conventions Used in This Guide

To make sure that you perform certain tasks properly, take note of the following symbols used throughout this manual.

DANGER/WARNING: Information to prevent injury to yourself when trying to complete a task.

CAUTION: Information to prevent damage to the components when trying to complete a task.

IMPORTANT: Instructions that you MUST follow to complete a task.

NOTE: Tips and additional information to help you complete a task.

Packing List

Before you begin installing your single board, please make sure that the following materials have been shipped:

- ✓ 1 x MX690E2 Mini ITX Main board
- ✓ 1 x CD-ROM contains the followings:
  - — User's manual (this manual in PDF file)
  - — Drivers
- ✓ 2 x COM cable
- ✓ 1 x IDE cable (40-pin)
- ✓ 2 x SATA cable kit (SATA/Power)
- ✓ 1 x I/O Shield
- ✓ 1 x Startup Manual

If any of the above items is damaged or missing, please contact your retailer.

Revision History

Revision	Revision History	Date
V 1.00	First release for PCB 1.00	September 23, 2008

Specifications Summary

Features	CPU	AMD® Socket AM2 Support Athlon 64, Athlon 64 X 2, Sempron with 2000MHz Hyper Transport support
	Chipset	AMD® RS690E + SB600
	Memory	Two 200-pin SO-DIMM up to 4GB DDR2 400/533/667/800 SDRAM
	Display	Graphics Core by AMD® RS690E with Radeon Xpress1250 Graphic Core
	Panel	CRT+DVI-D
	Audio	Realtek ALC888 with HD codec
	LAN	Realtek RTL8111C PCI-E Gigabit LAN
	Expansion	1 x PCI, 1x CF, 1 x Mini PCI-E
	I/O	4 x COM, 6 x USB 2.0, 4 x SATA
	Others	TPM Module Onboard

System	
CPU	AMD® Socket AM2 Support Athlon 64, Athlon 64 X 2, Sempron with 2000MHz Hyper Transport support
FSB	200/400/600/800/1000 MHZ
BIOS	8MB SPI Award BIOS
System Chipset	AMD RS690E/SB600
I/O Chipset	Winbond W83627DHG-A
Memory	2 x 200-pin DDR2 400/533/667/800MHz up to 4GB
Watchdog Timer	Reset: 1 sec.~255 min. and 1 sec. or 1 min./step
H/W Status Monitor	Monitoring CPU temperature, voltage, and cooling fan status. Auto throttling control when CPU overheats
Expansion Slots	1 x PCI, 1 x CF, 1x Mini PCI-E
S3	Yes
Fan Control	Yes
TPM	TPM1.2 (Infineon® TPM chip 9635 TT 1.2 on board)

Specifications Summary

I/O	
MIO	1 x D-Sub, 1 x DVI, 1 x Gigabit LAN, 6 x USB 2.0, 2 x SATA, 4 x RS232, 5W AMP x 2-CH, 1x PS/2(KB and MS), Audio (Mic, Line in/out),1 x IDE
USB	6 x USB 2.0
DIO	8 bit digital I/O, 4 input/ 4 output
Display	
Chipset	Integrated in AMD®RS690E (Radeon X1250)
Max. Resolution	2560 x 1440 bpp (@ 75Hz)
Dual Display	CRT+DVI-D
LVDS	LVDS 24Bit Dual Channel
DVI	Supported by RS690E
Audio	
Audio Codec	ALC888 5.1-channel Audio Codec
Audio Interface	Mic in, Line in, Line out (3 jack)
Audio Amplifier	TPA3005D2 Stereo 5Watt per channel
Ethernet	
LAN1	Realtek RTL8111C PCI-E Gigabit LAN
Ethernet Interface	LAN1 Realtek RTL8111C PCI-E Gigabit LAN
Back I/O Port	
Back Panel	Double deck PS2(KB+MS) Double deck COM(COM1+COM2) pin9 with 5V/12V selection VGA+DVI Double deck USB2+USB3 RJ45+2USB ports(USB0+USB1) 5.1-CH Audio I/O 3 phone jacks(Mic in, Line in, Line out)

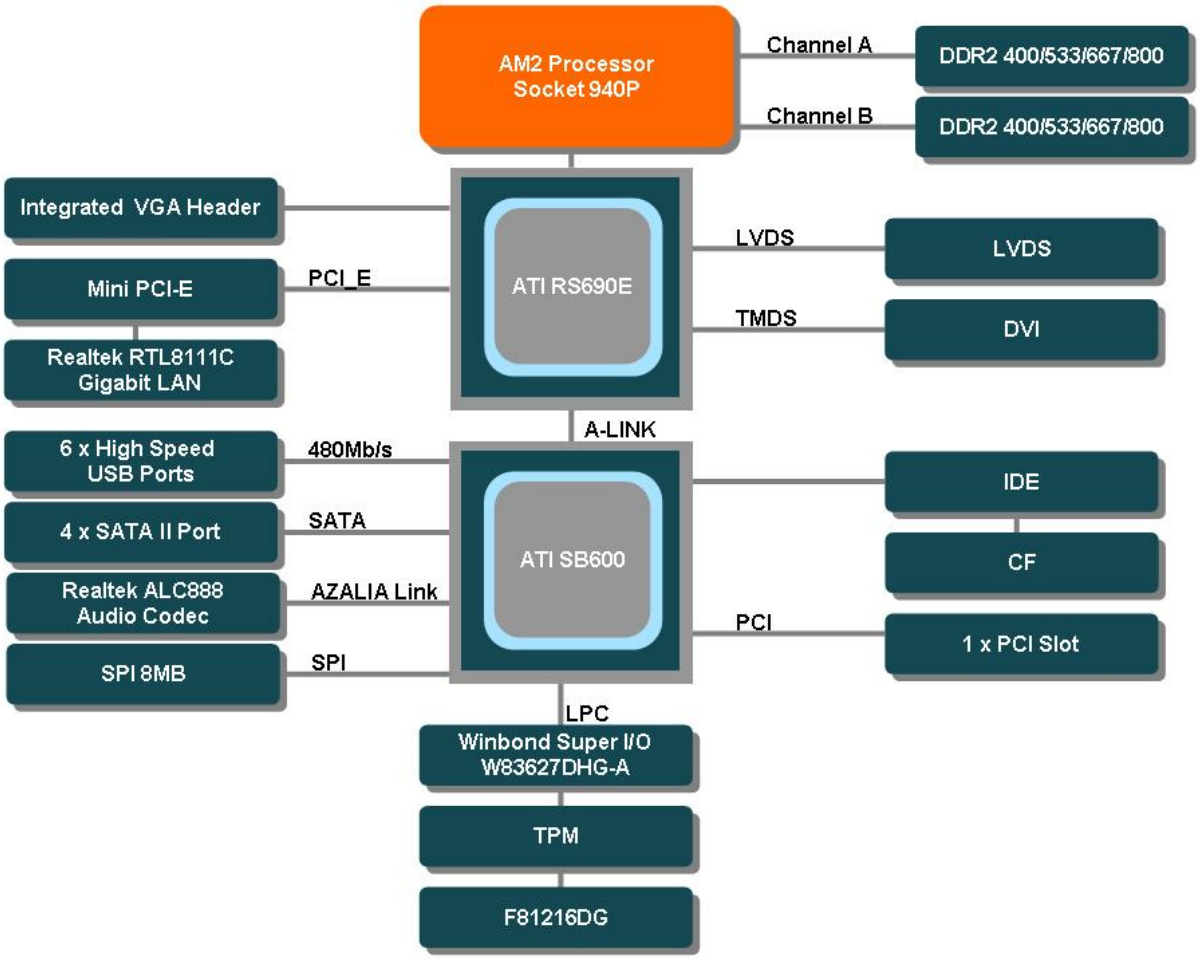
Specifications Summary

Internal I/O Connector	
Internal I/O	2 x USB connectors support additional 4 USB ports 1 x 20-pin ATX Power connector 1 x 4-pin ATX12V Power connector 1 x 40 pin IDE connector 2 x COM ports 2 x SATA connectors 1 x Audio amplifier connector 1 x System panel connector 1 x CPU Fan connector 1 x System Fan connector 1 x Digital IO header

Mechanical & Environmental	
Power Requirement	42W (Max). (3.3V, 3.08A , 5V 0.817A, 5VSB 0.387A, 12V 2.18A)
Power Type	ATX
Operating Temperature	0~60°C (32~140°F)
Operating Humidity	0%~90% relative humidity, non-condensing
Size (L x W)	Mini ITX 6.69" x 6.69" (170 mm x 170 mm)
Weight	0.88 lbs (0.4 Kg)

* Specifications are subject to change without notice.

Block Diagram



This chapter describes the main board features and the new technologies it supports.

1 Product introduction

Production Introduction

1.1 Before you Proceed

Take note of the following precautions before you install motherboard components or change any motherboard settings.

- Unplug the power cord from the wall socket before touching any component.
- Use a grounded wrist strap or touch a safely grounded object or a metal object, such as the power supply case, before handling components to avoid damaging them due to static electricity
- Hold components by the edges to avoid touching the ICs on them.
- Whenever you uninstall any component, place it on a grounded antistatic pad or in the bag that came with the component.
- Before you install or remove any component, ensure that the ATX power supply is switched off or the power cord is detached from the power supply. Failure to do so may cause severe damage to the motherboard, peripherals, and/or components.

1.2 Motherboard Overview

Before you install the motherboard, study the configuration of your chassis to ensure that the motherboard fits into it. Refer to the chassis documentation before installing the motherboard.

Make sure to unplug the power cord before installing or removing the motherboard. Failure to do so can cause you physical injury and damage motherboard components.

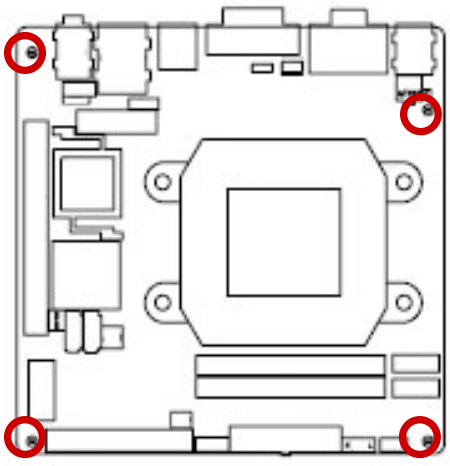
1.2.1 Placement Direction

When installing the motherboard, make sure that you place it into the chassis in the correct orientation. The edge with external ports goes to the rear part of the chassis as indicated in the image below.

1.2.2 Screw Holes

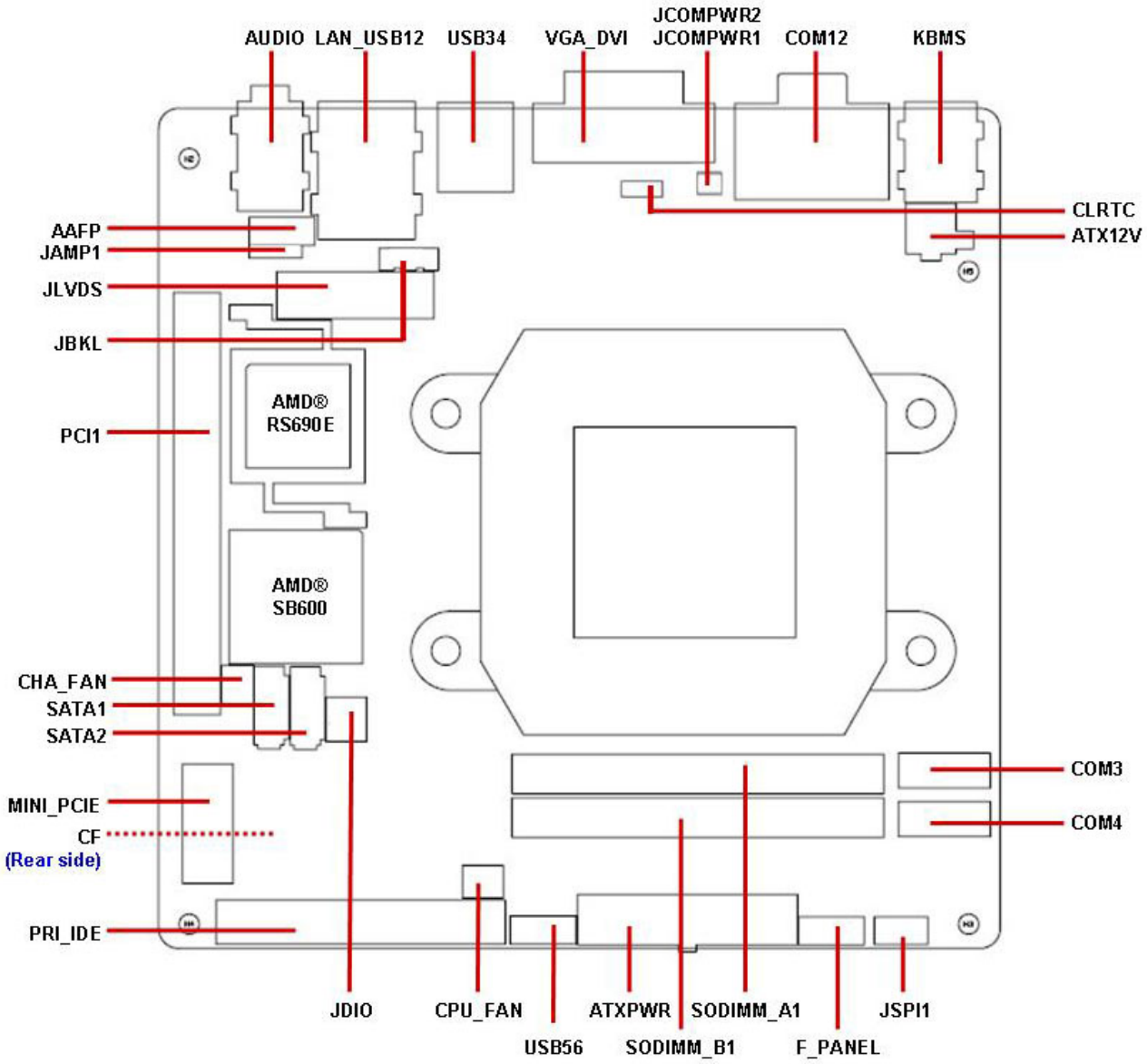
Place four (4) screws into the holes indicated by circles to secure the motherboard to the chassis.

Do not over tighten the screws! Doing so can damage the motherboard.



Place this side towards the rear of the chassis

1.3 Motherboard Layout



1.3.1 Layout Content List

Slots			
Label	**Function**	**Note**	**Page**
CF	Compact Flash socket	(Rear Side)	N/A
MINI_PCIE	Mini PCI-E slot		N/A
PCI1	PCI slot		N/A
SODIMM_A1	200-pin SODIMM slot 1		N/A
SODIMM_B1	200-pin SODIMM slot 2		N/A

Jumpers			
Label	**Function**	**Note**	**Page**
CLRTC	Clear CMOS	3 x 1 header, pitch 2.54mm	32
JCOMPWR1	COM1 RI/+5V/+12V Selection	3 x 2 header, pitch 2.54mm	33
JCOMPWR2	COM2 RI/+5V/+12V Selection	3 x 2 header, pitch 2.54mm	33

Rear Panel Connector			
Label	**Function**	**Note**	**Page**
KBMS	PS/2 keyboard and mouse	6-pin Mini-Din	34,36
COM12	Serial Port Connector	D-sub 9-pin, male	34,36
VGA_DVI	VGA Connector	D-sub 15-pin, female	34,36
USB34	USB Connector x 2		36
LAN1_USB12	RJ-45 Ethernet Connector x 1 USB Connector x 2		34,35
AUDIO	Line-in Port, Line-out Port, Microphone Port,	5.1 Channel Audio I/O (3 jacks)	34,35

Internal Connector			
Label	**Function**	**Note**	**Page**
AAFP	Front Panel Audio Connector	5 x 2 header, pitch 2.54mm	37
ATX12V	ATX Power Connector	2 x 2 header	38
ATXPWR	ATX Power Connector	10 x 2 header	38
CHA_FAN	Chassis Fan Connector	3 x 1 wafer, pitch 2.54mm	39
CPU_FAN	CPU Fan Connector	4 x 1 wafer, pitch 2.54mm	39
F_PANEL	System Panel Connector	5 x 2 header, pitch 2.54mm	40
JAMP1	Amplifier Connector	4 x 1 header, pitch 2.54mm	41
JBKL	LCD Inverter Connector	5 x 1 header, pitch 2.00mm	41
JDIO	Digital I/O Connector	5 x 2 header, pitch 2.00mm	42
JLVDS	LVDS Connector	HIROSE DF13S-40DP-1.25V	42
JSPI	JSPI Connector	4 x 2 header, pitch 2.54mm	42
PRI_IDE	Primary IDE Connector	20 x 2 header, pitch 2.54mm	43
SATA1, SATA	Serial ATA Connectors 1~2 [red]	7-pin header	44
USB56	USB 2.0 Connector	5 x 2 header, pitch 2.54mm	45

1.4 Central Processing Unit (CPU)

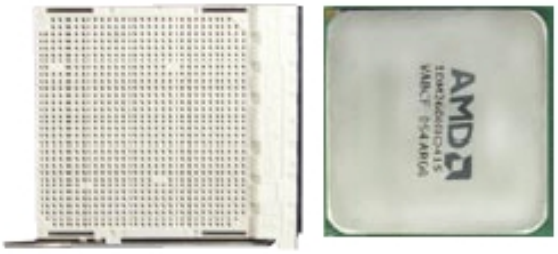
The motherboard comes with a 940-pin AM2 socket designed for the AMD Phenom, Athlon 64, Athlon 64 x 2, and Sempron processor.

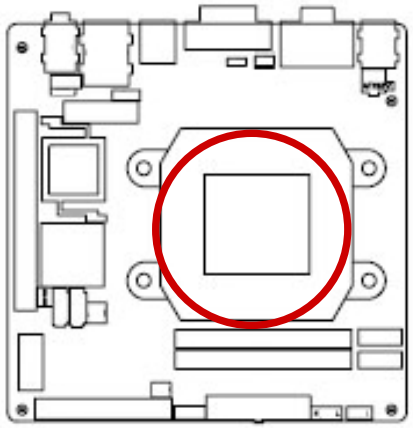
- Make sure the AC power is off before you install the CPU.
- If installing a dual-core CPU, connect the CPU fan cable to the **CPU_FAN** connector to ensure system stability.

- The AM2 socket has a different pin out from the 940-pin socket designed for the AMD Opteron processor. Make sure use a CPU is designed for the AM2 socket. The CPU fits in only one correct orientation. DO NOT forces the CPU into the socket to prevent bending the connectors on the socket and damaging the CPU!
- Your boxed AMD Phenom / Athlon 64 / Athlon 64 x 2, and Sempron CPU processors package should come with installation instructions for the CPU, heatsink, and the retention mechanism. If the instructions in this section do not match the CPU documentation, follow the latter.
- Upon purchase of the motherboard, make sure that the PnP cap is on the socket and the socket contacts are not bent. Contact your retailer immediately if the PnP cap is missing, or if you see any damage to the PnP cap/socket contacts/motherboard components. Your place of purchase or local distributor will shoulder the cost of repair only if the damage is shipment/transit-related.
- Keep the cap after installing the motherboard. Your place of purchase or local distributor will process Return Merchandise Authorization (RMA) requests only if the motherboard comes with the cap on the CPU socket.
- The product warranty does not cover damage to the socket contacts resulting from incorrect CPU installation/removal, or misplacement/loss/ incorrect removal of the PnP cap.

1.4.1 Installing the CPU

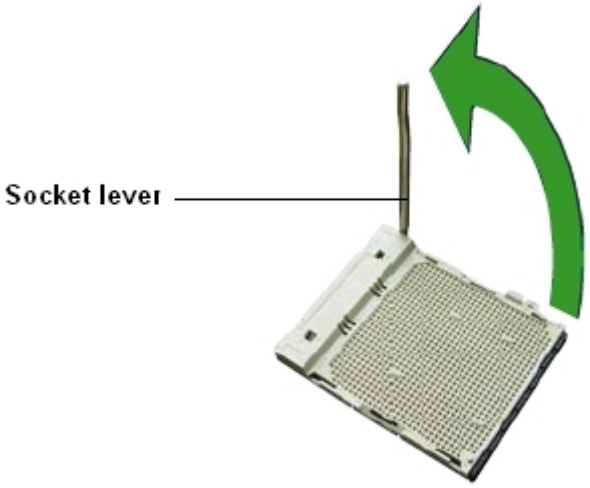
1. Locate the CPU socket on the motherboard.





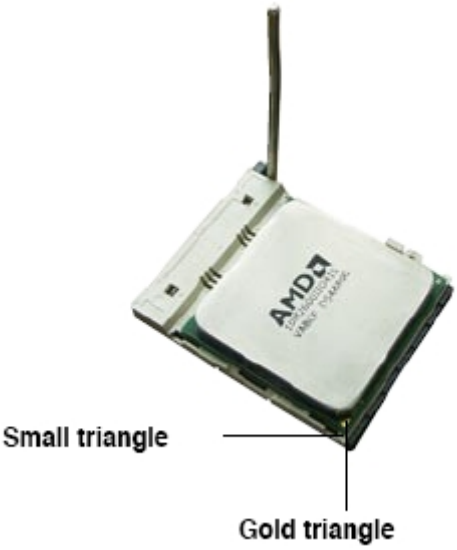
Before installing the CPU, make sure that the socket box is facing towards you and the load lever is on your left.

2. Unlock the socket by pressing the lever sideways, then lift it up to 90º~100º angle.



Make sure that the socket lever is lifted up to 90º ~ 100º angle; otherwise the CPU does not fit in completely.

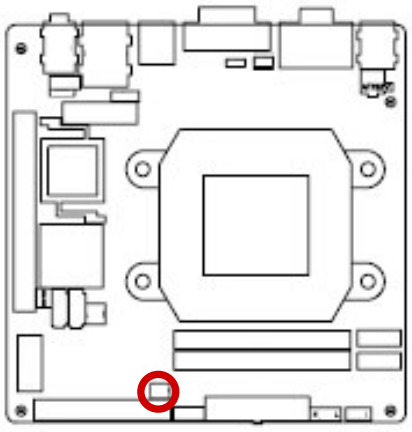
3. Position the CPU above the socket such that the CPU corner with the gold triangle matches the socket corner with a small triangle.
4. Carefully insert the CPU into the socket until it fits in place.



The CPU fits only in one correct orientation. DO NOT forces the CPU into the socket prevent bending the pins and damaging the CPU.

5. When the CPU is in place, push down the socket lever to secure the CPU. The lever clicks on the side tab to indicate that is locked.
6. Install a CPU heatsink and fan following the instructions that came with the heatsink package.

7. Connect the CPU fan cable to the **CPU_FAN** connector on the motherboard.



Do not forget to connect the CPU fan connector! Hardware monitoring errors can occur if you fail to plug this connector.

After installation, make sure to plug-in the ATX power cable to the motherboard.

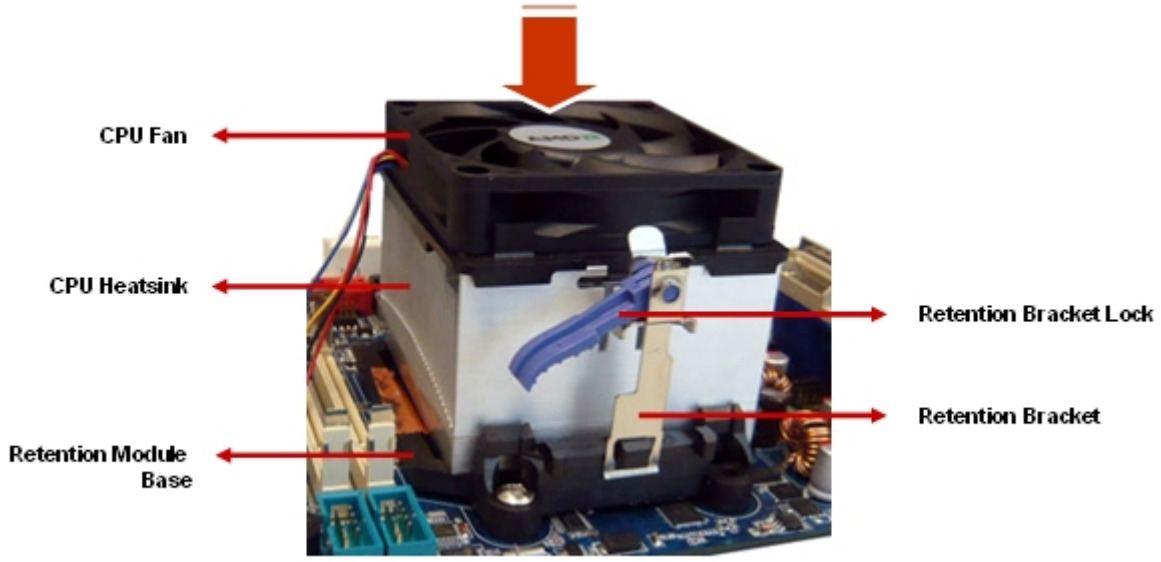
1.4.2 Installing the CPU Heatsink and Fan

The AMD Athlon 64 x 2 / Athlon 64 / Sempron processor requires a specially designed heatsink and fan assembly to ensure optimum thermal condition and performance.

- Install the motherboard to the chassis before you install the CPU fan and heatsink assembly.
- When you buy a boxed AMD processor, the package includes the CPU fan and heatsink assembly. If you buy a CPU separately, make sure that you use only qualified heatsink and fan assembly.

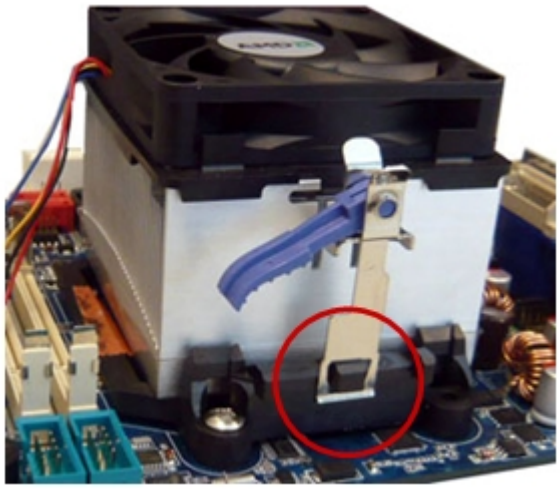
1. Place the heatsink on top of the installed CPU, making sure that the fits properly on the retention module base.

- The retention module base is already installed on the motherboard upon purchase.
- You do not have to remove the retention module base when installing the CPU or installing other motherboard components.
- If you purchase a separate CPU heatsink and fan assembly, make sure that a Thermal interface material is properly applied to the CPU heatsink or CPU before you install the heatsink and fan assembly.



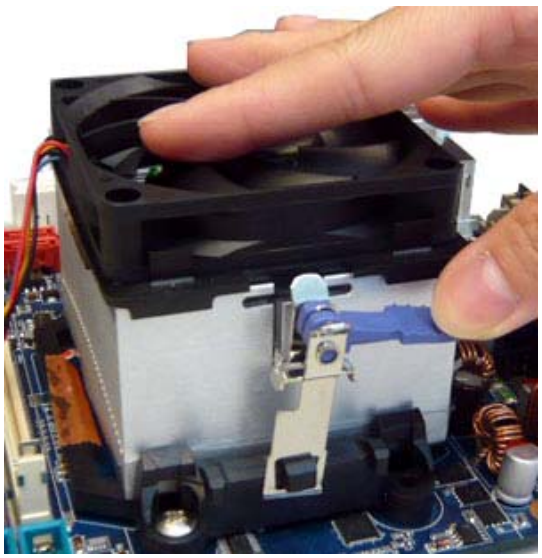
Your boxed CPU heatsink and fan assembly should come with installation instructions for the CPU, heatsink, and retention mechanism. If the instructions in this section do not match the CPU documentation, follow the latter.

2. Attach one end of the retention bracket to the retention module base.
3. Align the other end of the retention bracket (near the retention bracket lock) to the retention module base. A clicking sound denotes that the retention bracket is in place.

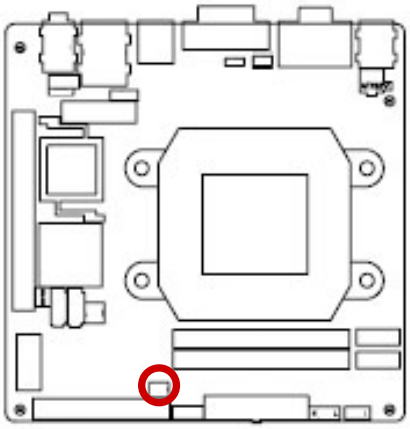


Make sure that the fan and heatsink assembly perfectly fits the retention mechanism module base; otherwise, you cannot snap the retention bracket in place.

4. Push down the retention bracket lock on the retention mechanism to secure the heatsink and fan to the module base.



5. Connect the CPU fan cable to the **CPU_FAN** connector on the motherboard.



- Do not forget to connect the fan cables to the fan connectors. Insufficient air flow inside the system may damage the motherboard components, and hardware monitoring errors can occur if you fail to plug this connector.
- These are not jumpers! DO NOT place jumper caps on the fan connectors.

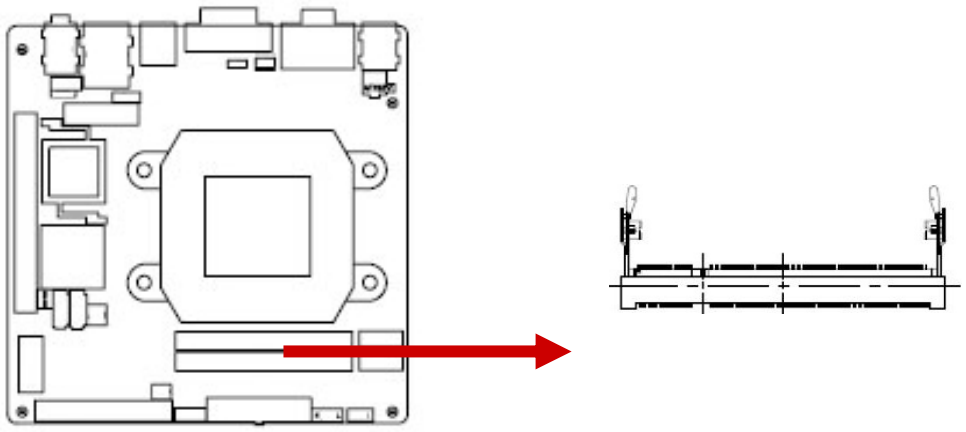
After installation, make sure to plug-in the ATX power cable to the motherboard.

1.5 System Memory

1.5.1 DIMM Sockets Location

The motherboard comes with two 200-pin Double Data Rate 2 (DDR2) SODIMM sockets.

A DDR2 module has the same physical dimensions as a DDR DIMM but has a 200-pin footprint compared to the 184-pin DDR DIMM. DDR2 DIMMs are notched differently to prevent installation on a DDR DIMM socket. The following figure illustrates the location of the sockets:



1.5.2 Memory Configurations

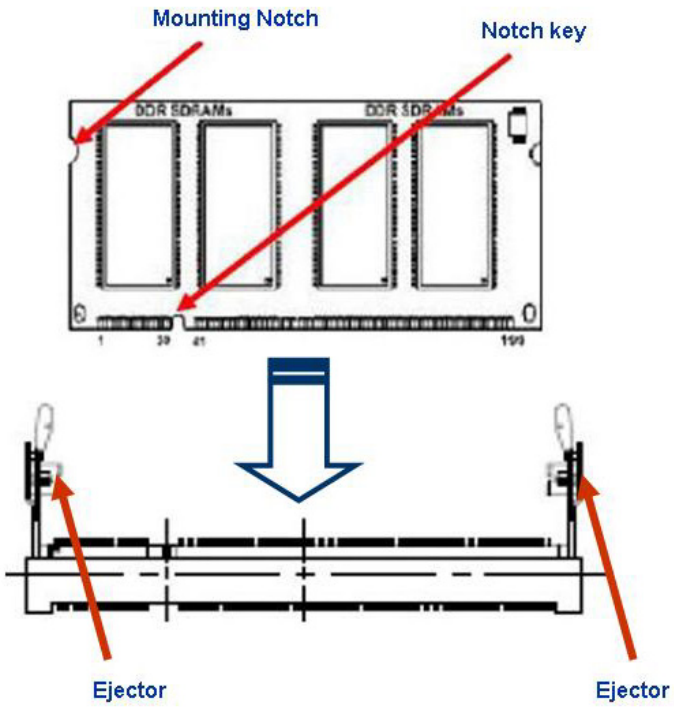
You can install 256MB, 512MB, 1GB and 2GB DDR2 SDRAM DIMMs into the SODIMM sockets using the memory configurations in this section.

- Installing DDR2 DIMM other than the recommended configurations may cause memory sizing error or system boot failure. Use any of the recommended configurations.
- For dual-channel configuration, the total size of memory module(s) installed per channel must be the same (DIMM1 = DIMM2).
- Always install DIMMs with the same CAS latency. For optimum compatibility, it is recommended that you obtain memory modules from the same vendor.
- Due to chipset resource allocation, the system may detect less than 1 GB system memory when you installed one 1 GB DDR2 memory modules.
- This motherboard does not support memory modules made up of 128 Mb chips or double-sided x16 memory modules.
  Make sure that the memory frequency matches the CPU FSB (Front Side Bus). Refer to the Memory frequency/CPU FSB synchronization table.

1.5.3 Installing a DDR2 DIMM

Make sure to unplug the power supply before adding or removing DIMMs or other system components. Failure to do so may cause severe damage to both the motherboard and the components.

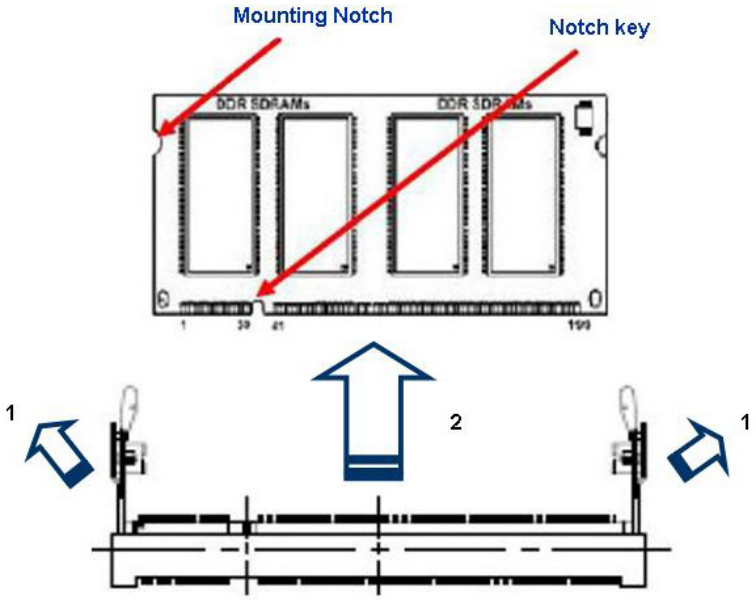
1. Locate the DIMM socket on the board.
2. Hold two edges of the DIMM module carefully, and keep away of touching its connectors.
3. Align the notch key on the module with the rib on the slot.
4. Firmly press the modules into the socket automatically snaps into the mounting notch. Do not force the DIMM module in with extra force as the DIMM module only fit in one direction.



- A DDR2 DIMM is keyed with a notch so that it fits in only one direction. DO NOT force a DIMM into a socket to avoid damaging the DIMM.
- The DDR2 DIMM sockets do not support DDR DIMMs. DO NOT install DDR DIMMs to the DDR2 DIMM socket.

1.5.4 Removing a DDR2 DIMM

1. Press the two ejector tabs on the slot outward simultaneously, and then pull out the DIMM module.



Support the DIMM lightly with your fingers when pressing the ejector tabs. The DIMM might get damaged when it flips out with extra force.

1.6 Expansion Slots

In the future, you may need to install expansion cards. The following sub-sections describe the slots and the expansion cards that they support.

Make sure to unplug the power cord before adding or removing expansion cards. Failure to do so may cause you physical injury and damage motherboard components.

1.6.1 Installing an Expansion Card

1. Before installing the expansion card, read the documentation that came with it and make the necessary hardware settings for the card.
2. Remove the system unit cover (if your motherboard is already installed in a chassis).
3. Remove the bracket opposite the slot that you intend to use. Keep the screw for later use.
4. Align the card connector with the slot and press firmly until the card is completely seated on the slot.
5. Secure the card to the chassis with the screw you removed earlier.
6. Replace the system cover.

1.6.2 Configuring an Expansion Card

After installing the expansion card, configure it by adjusting the software settings.

1. Turn on the system and change the necessary BIOS settings if any.
2. Assign an IRQ to the card if needed. Refer to the tables on the next page.
3. Install the software drivers for the expansion card.

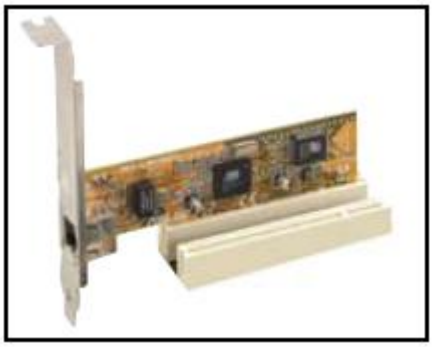
1.6.3 Standard Interrupt Assignments

IRQ	Priority	Standard Function
0	1	System Timer
1	2	Keyboard Controller
2	-	Redirect to IRQ#9
3	11	IRQ holder for PCI streering*
4	12	Communications Port (COM1)*
5	13	IRQ holder for PCI streering*
6	14	Floppy Disk Controller
7	15	Printer Port (LPT)*
8	3	System CMOS/Rear Time
9	4	IRQ holder for PCI streeing*
10	5	IRQ holder for PCI streeing*
11	6	IRQ holder for PCI streeing*
12	7	PS/2 Compatible Mouse Port*
13	8	Numeric Data Processor
14	9	Primary IDE Channel
15	10	Secondary IDE Channel

* There IRQs are usually available for ISA or PCI device.

1.6.4 PCI Slot

This motherboard has one PCI slot. The PCI slot supports card such as a LAN card, SCSI card, USB card, and other cards that comply with PCI specifications. The figure shows a LAN card installed on a PCI slot.



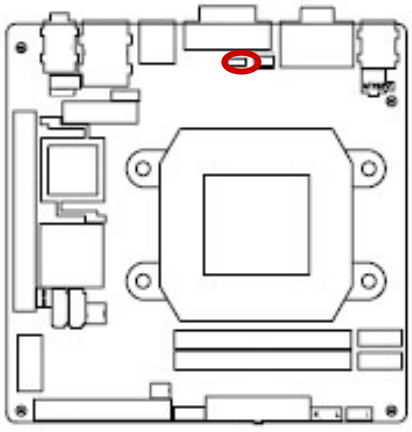
1.7 Jumpers

1.7.1 Clear CMOS (CLRTC)

This jumper allows you to clear the Real Time Clock (RTC) RAM in CMOS. You can clear the CMOS memory of date, time, and system setup parameters by erasing the CMOS RTC RAM data. The onboard button cell battery powers the RAM data in CMOS, which include system setup information such as system passwords. To erase the RTC RAM:

1. Turn OFF the computer and unplug the power cord.
2. Remove the onboard battery.
3. Move the jumper cap from pins 1-2 (default) to pins 2-3. Keep the cap on pins 2-3 for about 5~10 seconds, then move the cap back to pins 1-2.
4. Re-install the battery.
5. Plug the power cord and turn ON the computer.
6. Hold down the <Del> key during the boot process and enter BIOS setup to re-enter data.

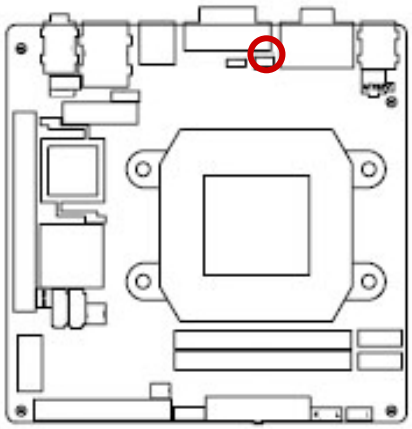
Except when clearing the CMOS, never remove the cap on CLRTC jumper default position. Removing the cap will cause system boot failure!



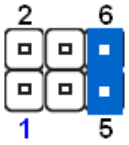
Normal (Default)

Clear CMOS

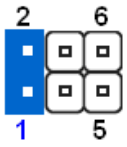
1.7.2 COM1 RI/+5V/+12V Selection (JCOMPWR1)



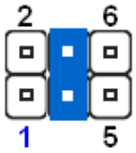
+5V (Default)



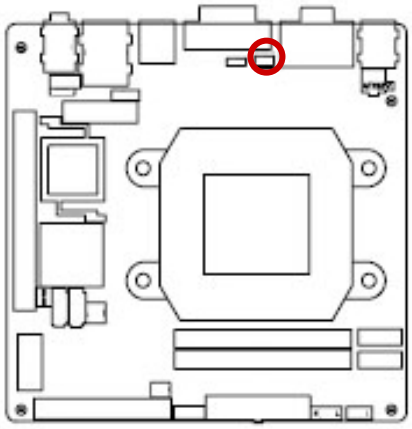
+12V



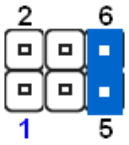
Ring



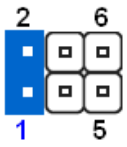
1.7.3 COM2 RI/+5V/+12V Selection (JCOMPWR2)



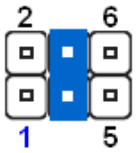
+5V (Default)



+12V

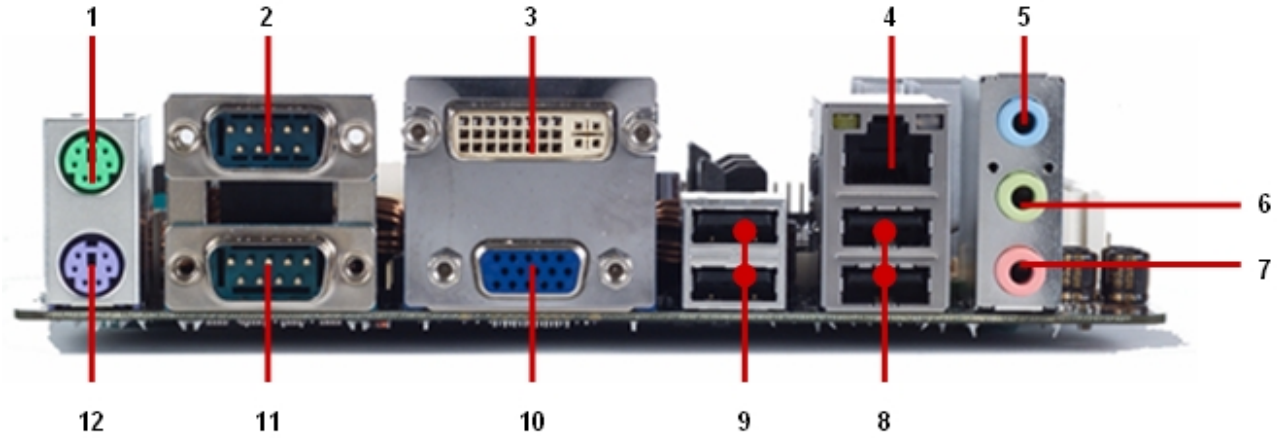


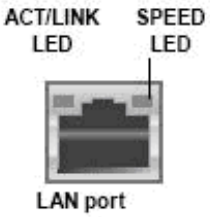
Ring



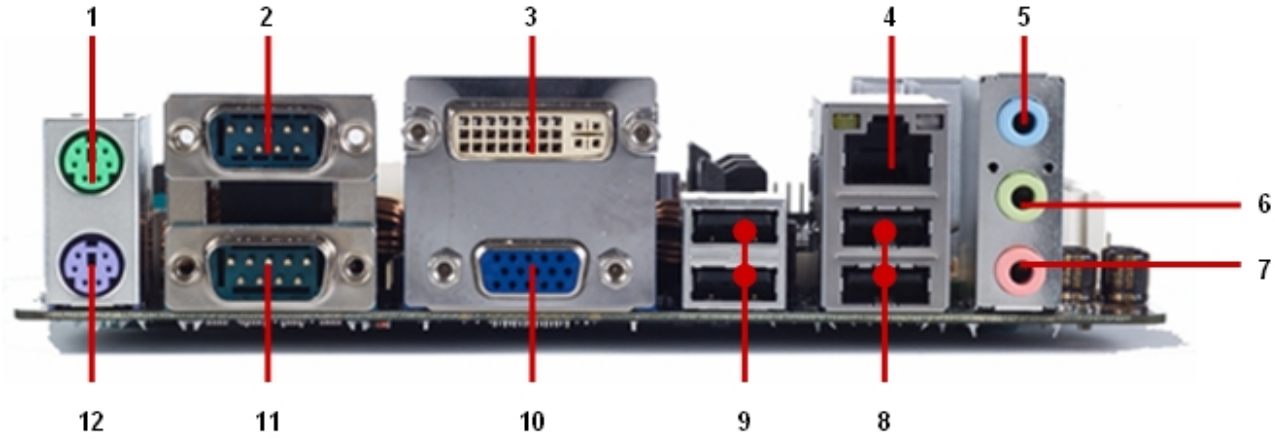
1.8 Connectors

1.8.1 Rear Panel Connectors



No	Label	Function	Description
1	KBMS	PS/2 mouse connector	The standard PS/2 mouse DIN connector is for a PS/2 mouse.
2	COM12	Serial port connector	D-Sub 9-pin, male
3	VGA_DVI		
4	LAN_USB12	LAN (RJ-45) connector  	This port allows Gigabit connection to a Local Area Network (LAN) through a network hub. Refer to the table below for the LAN port LED indications. The optional 10/100 Mbps LAN controller allows 10/100 Mbps connection to a Local Area Network (LAN) through a network hub.
5	AUDIO	Line-In port (Light Blue).	This port connects a tape, CD, DVD player, or other audio sources.

ACT / LINK LED		SPEED LED	
Status	Description	Status	Description
OFF	No link	OFF	10Mbps connection
Orange	Linked	ORANGE	100Mbps connection
Blinking	Data activity	GREEN	1Gbps connection

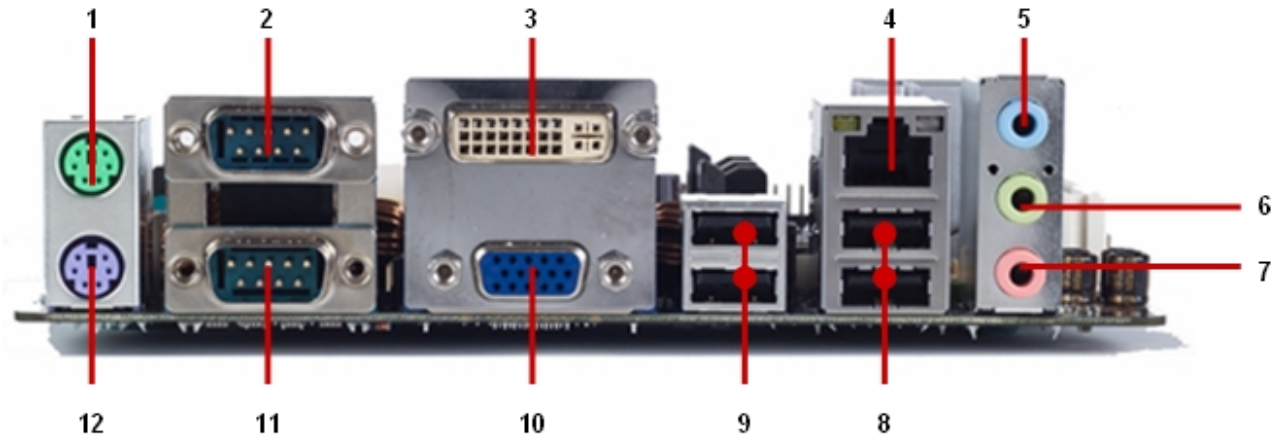


No	Label	Function	Description
6	AUDIO	Line-Out port (Lime)	This port connects a headphone or a speaker. In 4-channel, 6-channel, and 8-channel configuration, the function of this port becomes Front Speaker Out.
7	AUDIO	Microphone port (Pink)	This port connects a microphone.

Refer to the audio configuration table below for the function of the audio ports in 2, 4, 6, or 8-channel configuration.

Port	Headset			
	2-channel	4-channel	6-channel	8-channel
Light Blue	Line in	Line in	Line in	Line in
Lime	Line out	Front speaker out	Front speaker out	Front speaker out
Pink	Mic In	Mic In	Mic In	Mic In

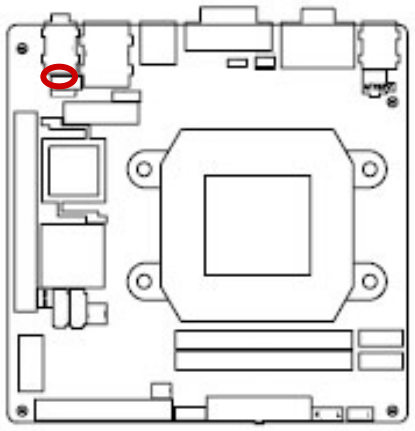
8	LAN_USB12	USB 2.0 connector	These two 4-pin Universal Serial Bus (USB) ports are available for connecting USB 2.0 devices.

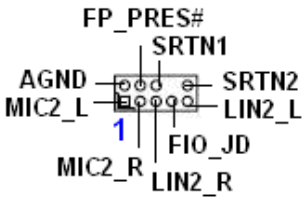


No	Label	Function	Description
9	USB34	USB 2.0 connector	These two 4-pin Universal Serial Bus (USB) ports are available for connecting USB 2.0 devices.
10	VGA_DVI	VGA port	This 15-pin port is for a VGA monitor or other VGA-compatible devices.
11	COM12	Serial port connector	D-Sub 9-pin, male
12	KBMS	PS/2 KB connector	This port is for a PS/2 keyboard

1.8.2 Front Panel Audio Connector (AAFP)

This connector is for a chassis-mounted front panel audio I/O module that supports either HD Audio or legacy AC '97 (optional) audio standard. Connect one end of the front panel audio I/O module cable to this connector.

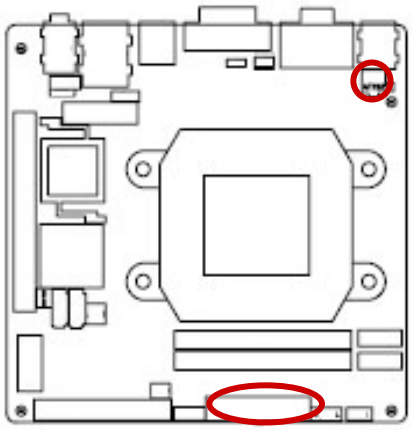


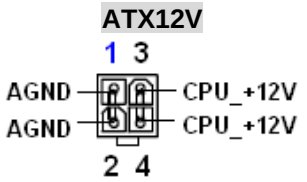


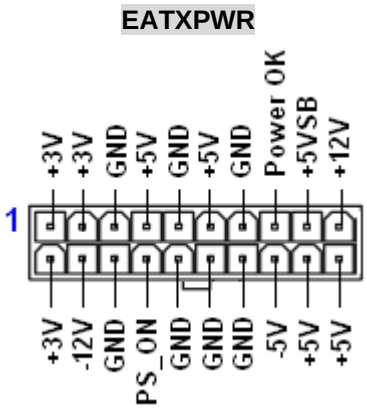
For motherboards with the optional HD Audio feature, we recommend that you connect a high-definition front panel audio module to this connector to avail of the motherboard's high‑definition audio capability.

1.8.3 ATX Power Connector (ATX12V, ATXPWR)

These connectors are for ATX power supply plugs. The power supply plugs are designed to fit these connectors in only one orientation. Find the proper orientation and push down firmly until the connectors completely fit.



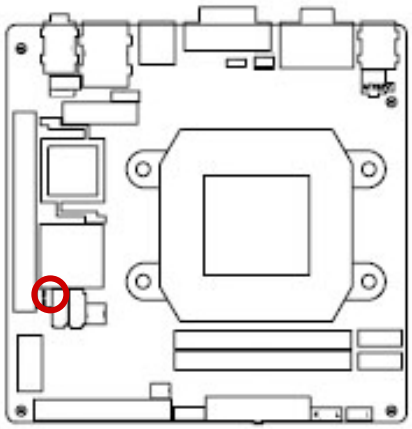




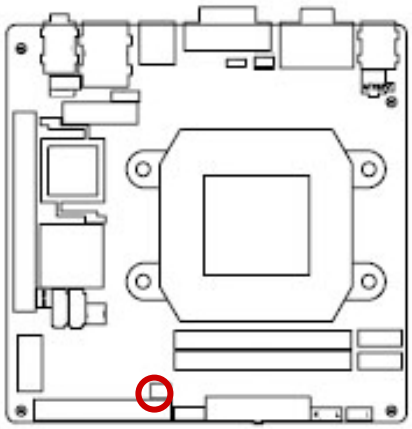
Important notes on the Motherboard Power Requirements

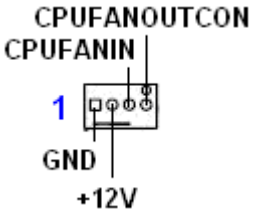
- Make sure that your ATX 12V power supply can provide 8A on the +12V lead and at least 1A on the +5-volt standby lead (+5VSB). The minimum recommended wattage is 230W, or 300W for a fully configured system. The system can become unstable and might experience difficulty powering up if the power supply is inadequate.
- You must install a PSU with a higher power rating if you intend to install additional devices.

1.8.4 Chassis Fan Connector (CHA_FAN)



1.8.5 CPU Fan Connector (CPU_FAN)

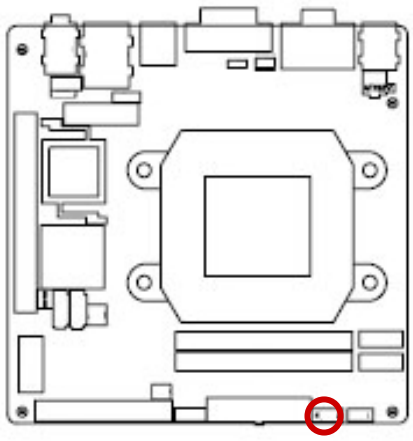


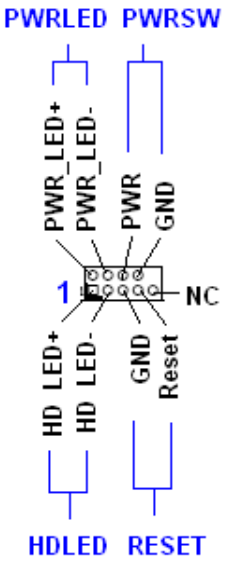


- Do not forget to connect the fan cables to the fan connectors. Insufficient air flow inside the system may damage the motherboard components, and hardware monitoring errors can occur if you fail to plug this connector.
- These are not jumpers! DO NOT place jumper caps on the fan connectors.

1.8.6 System Panel Connector (F_PANEL)

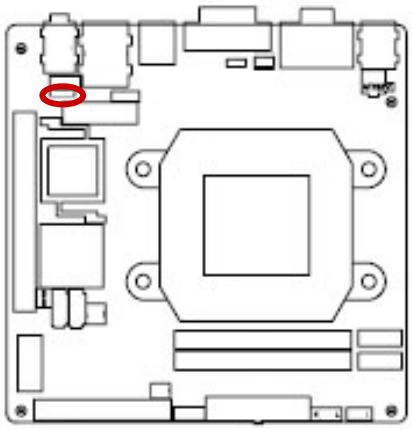
This connector supports several chassis-mounted functions.

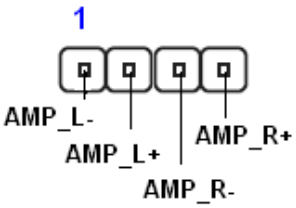




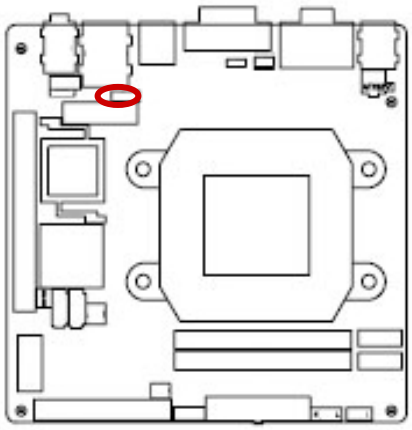
- **System Power LED (2-pin PWRLED)**
  This 2-pin connector is for the system power LED. Connect the chassis power LED cable to this connector. The system power LED lights up when you turn on the system power, and blinks when the system is in sleep mode.
- **ATX Power Button/Soft-off Button (2-pin PWRSW)**
  This connector is for the system power button. Pressing the power button turns the system on or puts the system in sleep or soft-off mode depending on the BIOS settings. Pressing the power switch for more than four seconds while the system is ON turns the system OFF.
- **Hard Disk Drive Activity LED (2-pin HDLED)**
  This 2-pin connector is for the HDD Activity LED. Connect the HDD Activity LED cable to this connector. The IDE LED lights up or flashes when data is read from or written to the HDD.
- **Reset Button (2-pin RESET)**
  This 2-pin connector is for the chassis-mounted reset button for system reboot without turning off the system power.

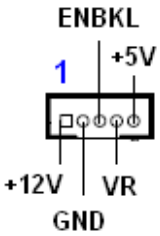
1.8.7 Amplifier connector (JAMP1)





1.8.8 LCD Inverter Connector (JBKL)

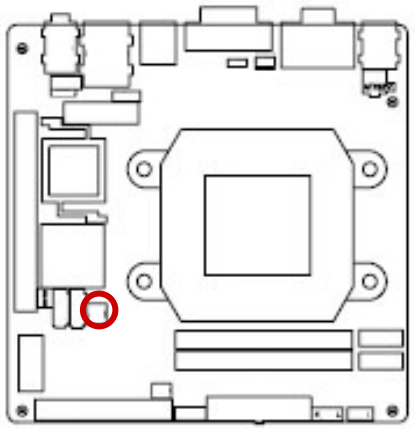


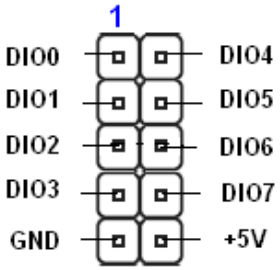


- **Signal Description**

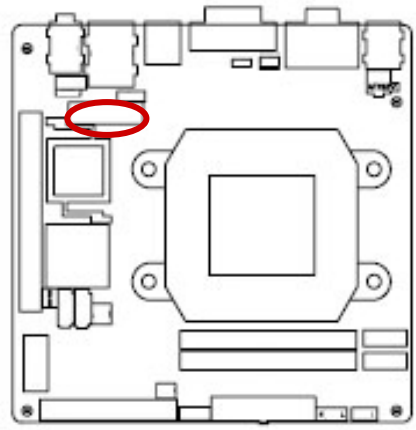
Signal	Signal Description
VR	Bright adjust. Vadj=0.75V ~ 4.25V (Recommended: 4.7KΩ, > 1/16W)
ENBKL	LCD backlight ON/OFF control signal

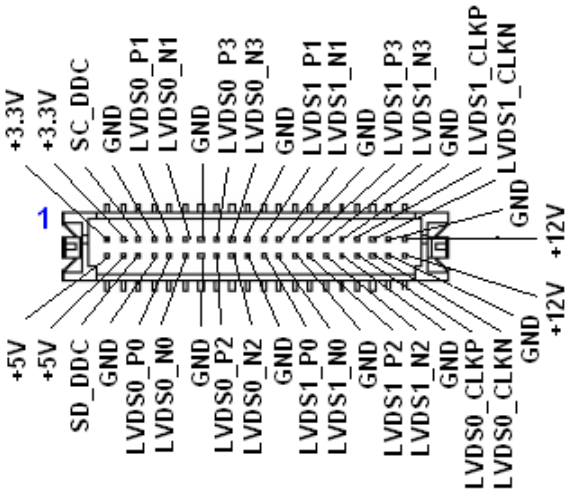
1.8.9 Digital I/O Connector (JDIO)



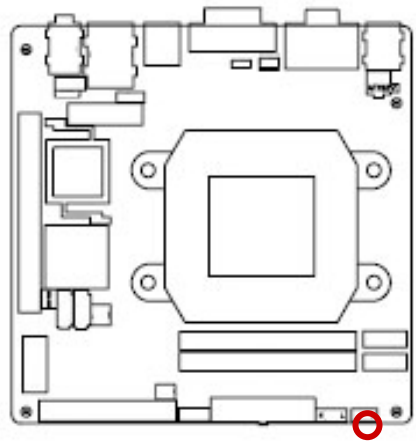


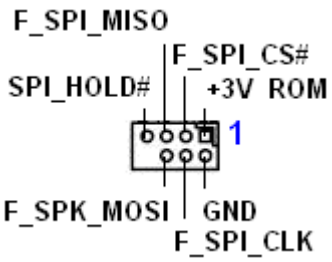
1.8.10 LVDS connector (JLVDS)



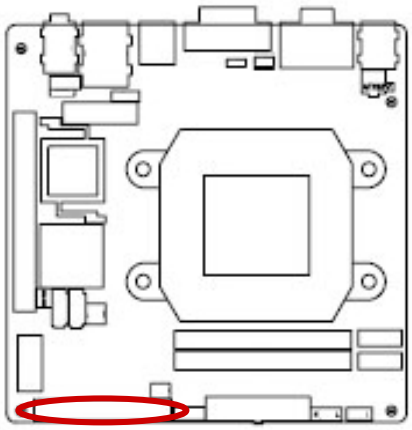


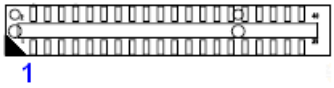
1.8.11 JSPI Connector (JSPI)





1.8.12 Primary IDE Connector (PRE_IDE)

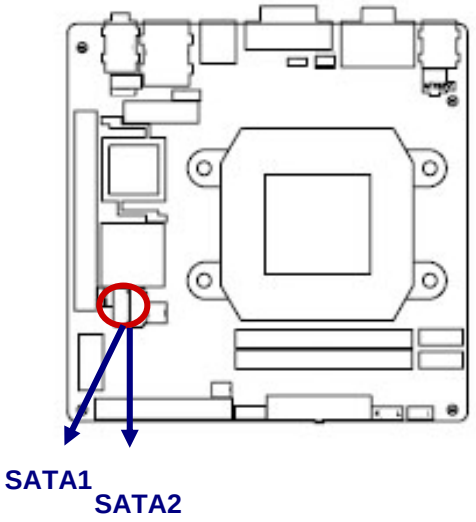


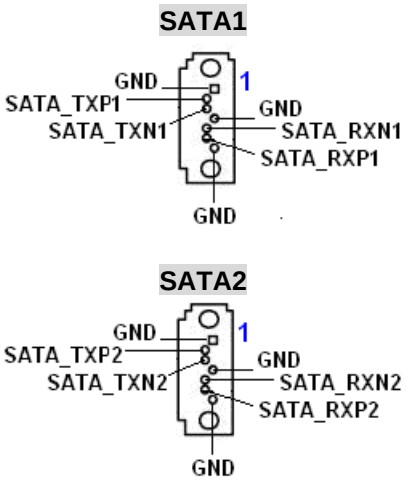


- Orient the red markings (usually zigzag) on the IDE cable to Pin 1.

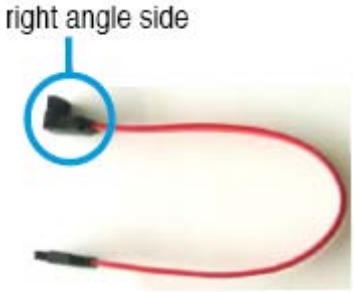
1.8.13 Serial ATA Connector (SATA1, SATA2)

These connectors are for the Serial ATA signal cables for Serial ATA hard disk drives.





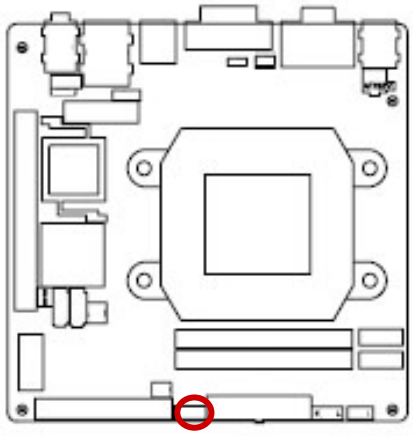
Connect the right-angle side of SATA signal cable to SATA device. Or you may connect the right-angle side of SATA cable to the onboard SATA port to avoid mechanical conflict with huge graphics cards.

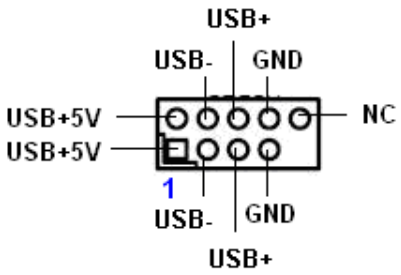


- Install the Windows® 2000 Service Pack 4 or the Windows® XP Service Pack1 before using Serial ATA.
- When using the connectors in Standard IDE mode, connect the primary (boot) hard disk drive to the SATA1 connector.

1.8.14 USB 2.0 Connector (USB56)

These connectors are for USB 2.0 ports. Connect the USB/GAME module cable to any of these connectors, then install the module to a slot opening at the back of the system chassis. These USB connectors comply with USB 2.0 specification that supports up to 480 Mbps connection speed.





Never connect a **1394 cable** to the USB connectors. Doing so will damage the motherboard!

The USB module is purchased separately.

This chapter tells how to change
the system set tings through the BIOS
setup menus. Detailed descriptions
of the BIOS parameters are also provided.

2 BIOS setup

BIOS Setup

2.1 BIOS Setup Program

This motherboard supports a programmable firmware chip that you can update using the provided utility. Use the BIOS Setup program when you are installing a motherboard, reconfiguring your system, or prompted to "Run Setup." This section explains how to configure your system using this utility.

Even if you are not prompted to use the Setup program, you can change the configuration of your computer in the future. For example, you can enable the security password feature or change the power management settings. This requires you to reconfigure your system using the BIOS Setup program so that the computer can recognize these changes and record them in the CMOS RAM of the firmware hub.

The firmware hub on the motherboard stores the Setup utility. When you start up the computer, the system provides you with the opportunity to run this program. Press <Del> during the Power-On-Self-Test (POST) to enter the Setup utility; otherwise, POST continues with its test routines.

If you wish to enter Setup after POST, restart the system by pressing <Ctrl + Alt + Delete>, or by pressing the reset button on the system chassis. You can also restart by turning the system off and then back on. Do this last option only if the first two failed.

The Setup program is designed to make it as easy to use as possible. Being a menu-driven program, it lets you scroll through the various sub-menus and make your selections from the available options using the navigation keys.

- The default BIOS settings for this motherboard apply for most conditions to ensure optimum performance. If the system becomes unstable after changing any BIOS settings, load the default settings to ensure system compatibility and stability. Select the **Load Optimized Defaults** from the BIOS menu screen.
- The BIOS setup screens shown in this section are for reference purposes only, and may not exactly match what you see on your screen.
- Visit the system builder's website to download the latest BIOS file for this motherboard

2.1.1 Legend Box

The keys in the legend bar allow you to navigate through the various setup menus

Key(s)	Function Description
←	Select Screen
↑ ↓	Select Item
+ -	Change Option / Field
Enter	Go to Sub Screen
PGDN	Next Page
PGUP	Previous Page
HOME	Go to Top of Screen
END	Go to Bottom of Screen
F2/F3	Change Colors
F7	Discard Changes
F8	Load Failsafe Defaults
F9	Load Optimal Defaults
F10	Save and Exit
ESC	Exit

2.1.2 List Box

This box appears only in the opening screen. The box displays an initial list of configurable items in the menu you selected.

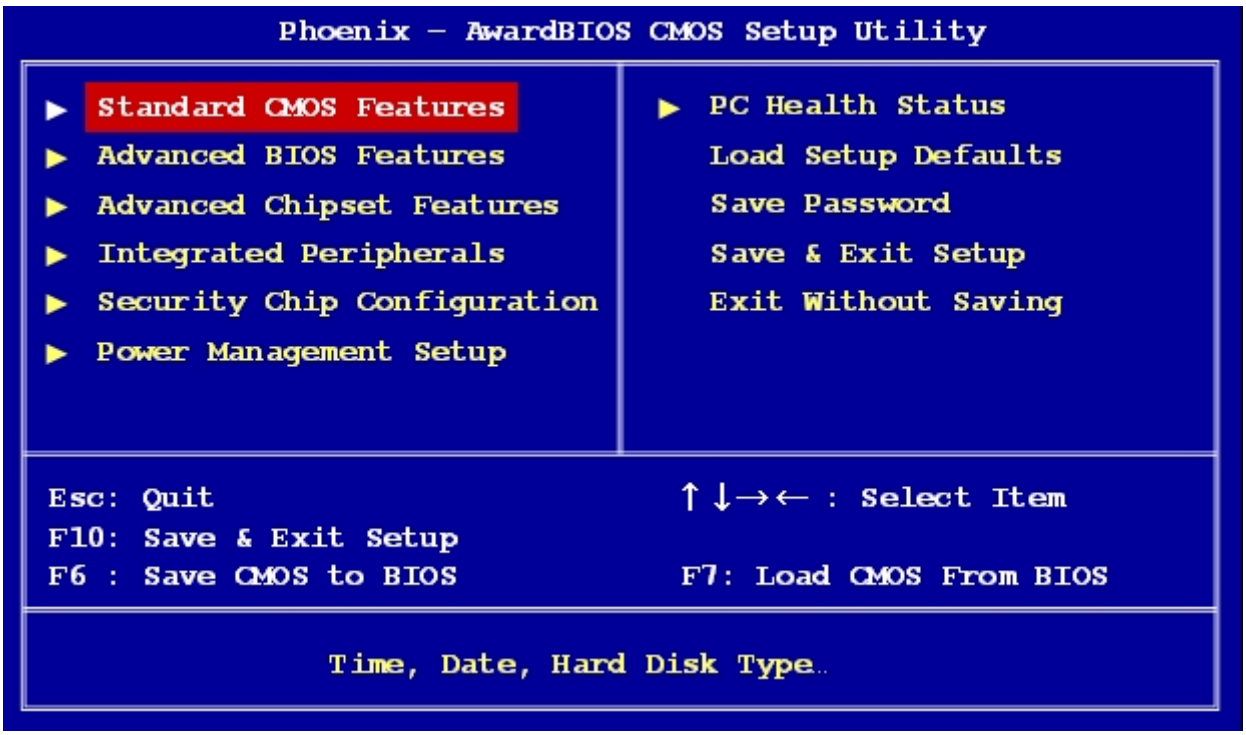
2.1.3 Sub-menu

Note that a right pointer symbol appears to the left of certain fields. This pointer indicates that you can display a sub-menu from this field. A sub-menu contains additional options for a field parameter. To display a sub-menu, move the highlight to the field and press <Enter>. The sub‑menu appears. Use the legend keys to enter values and move from field to field within a sub-menu as you would within a menu. Use the <Esc> key to return to the main menu.

Take some time to familiarize yourself with the legend keys and their corresponding functions. Practice navigating through the various menus and submenus. If you accidentally make unwanted changes to any of the fields, press <F6> to load the fail-safe default values. While moving around through the Setup program, note that explanations appear in the Item Specific Help window located to the right of each menu. This window displays the help text for the currently highlighted field.

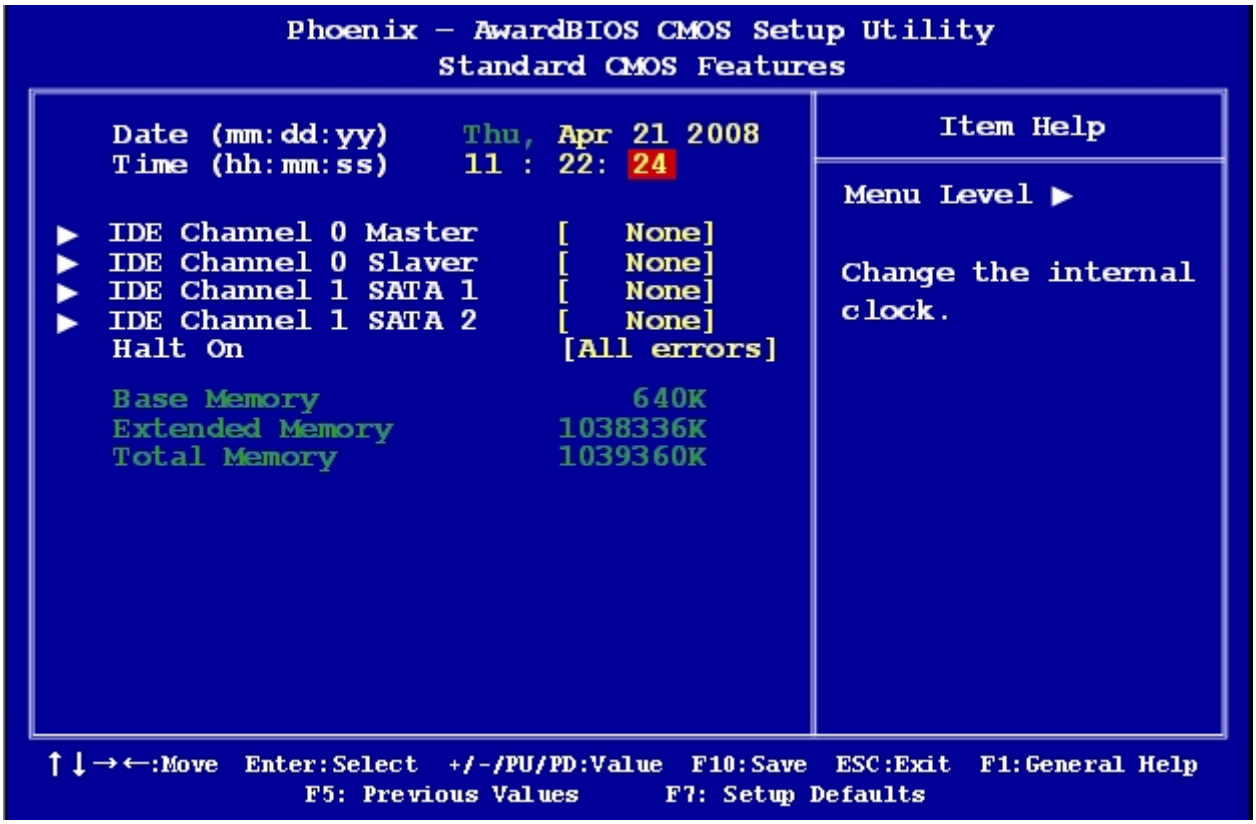
2.2 BIOS Menu Screen

When you enter the BIOS, the following screen appears. The BIOS menu screen displays the items that allow you to make changes to the system configuration. To access the menu items, press the up/down/right/left arrow key on the keyboard until the desired item is highlighted, then press [Enter] to open the specific menu.



2.2.1 Standard CMOS Features

The Standard CMOS Features screen gives you an overview of the basic system.


Phoenix – AwardBIOS CMOS Setup Utility
Standard CMOS Features
Date (mm:dd:yy) Thu, Apr 21 2008
Time (hh:mm:ss) 11 : 22: 24
IDE Channel 0 Master [None]
IDE Channel 0 Slaver [None]
IDE Channel 1 SATA 1 [None]
IDE Channel 1 SATA 2 [None]
Halt On [All errors]
Base Memory 640K
Extended Memory 1038336K
Total Memory 1039360K
Item Help
Menu Level ▶
Change the internal clock.
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F7: Setup Defaults

2.2.1.1 Date [Day, xx/ xx/ xxxx]

The date format is <week>, <month>, <day>, <year>.

2.2.1.2 Time [xx : xx : xx]

The time format is <hour><minute><second>, based on the 24-hour clock.

2.2.1.3 IDE Channel 0/1/2/3/4/5 Master / Slave / SATA1 / SATA2

- **IDE HDD Auto-Detection**

  [Press Enter] to select this option for automatic device detection.

- **IDE Device Setup**

  [Auto]: Automatically detects IDE devices during POST

  [None]: Select this when no IDE device is used. The system will skip the auto-detection setup to make system start up faster.

  [Manual]: User can manually input the correct settings.

  - ✓ Access Mode: The options are CHS/LBA/Large/Auto
  - ✓ Capacity: Capacity of currently installed hard disk
  - ✓ Cylinder: Number of cylinders
  - ✓ Head: Number of heads
  - ✓ Precomp: Write precomp
  - ✓ Landing Zone: Landing zone
  - ✓ Sector: Number of sectors

2.2.1.4 Halt On

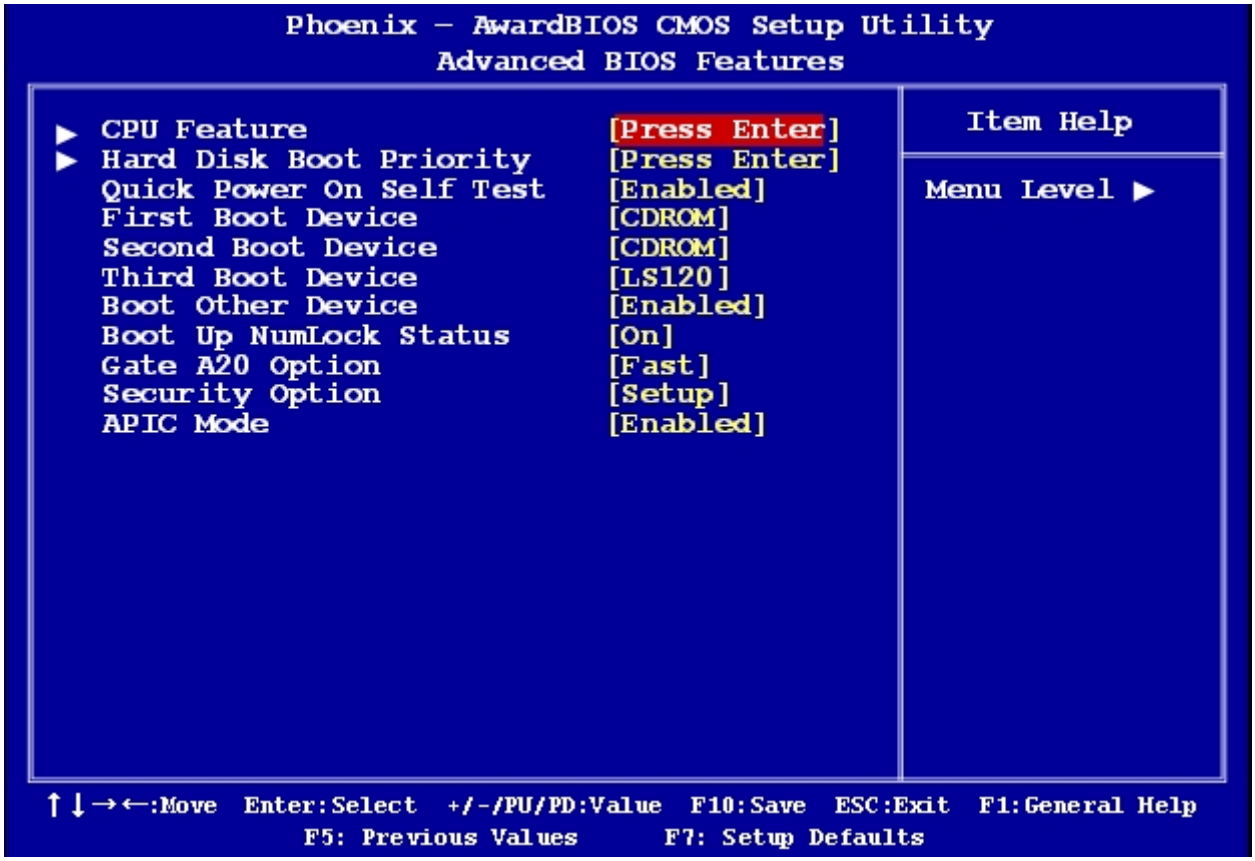
Set the system to halt on errors according to the system functions specified in each option. Configuration options: [All Errors] [No Errors] [All, But Keyboard] [All, But Diskette] [All, But Disk/Key]

2.2.1.5 Memory

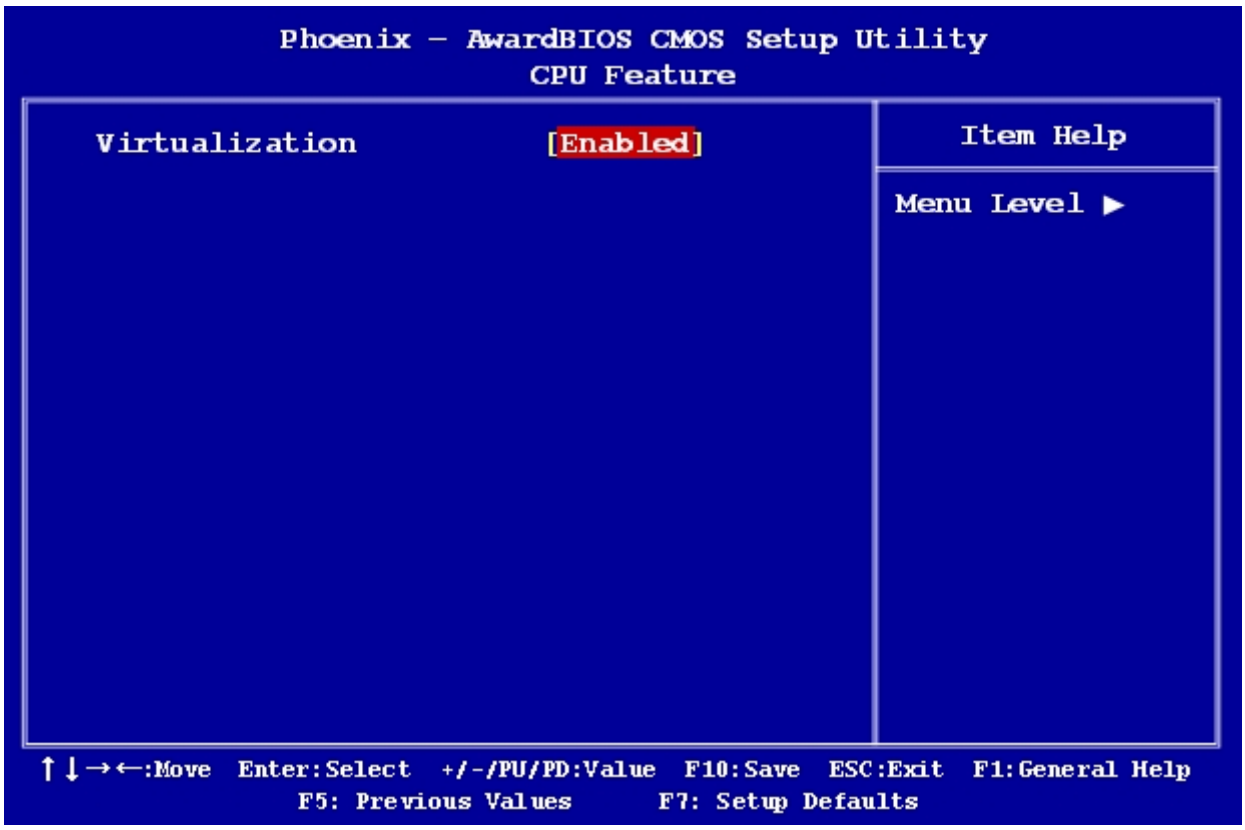
This category displays base memory, extended memory, and total memory detected during POST (Power On Self Test).

2.2.2 Advanced BIOS Features

The “Advanced BIOS Features” screen appears when choosing the “Advanced BIOS Features” item from the “Initial Setup Screen” menu. It allows the user to configure the motherboard according to his particular requirements. Below are some major items that are provided in the Advanced BIOS Features screen. A quick booting function is provided for your convenience. Simply enable the Quick Booting item to save yourself valuable time.


Phoenix – AwardBIOS CMOS Setup Utility
Advanced BIOS Features
CPU Feature [Press Enter]
Hard Disk Boot Priority [Press Enter]
Quick Power On Self Test [Enabled]
First Boot Device [CDROM]
Second Boot Device [CDROM]
Third Boot Device [LS120]
Boot Other Device [Enabled]
Boot Up NumLock Status [On]
Gate A20 Option [Fast]
Security Option [Setup]
APIC Mode [Enabled]
Item Help
Menu Level ▶
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F7: Setup Defaults

2.2.2.1 CPU Features

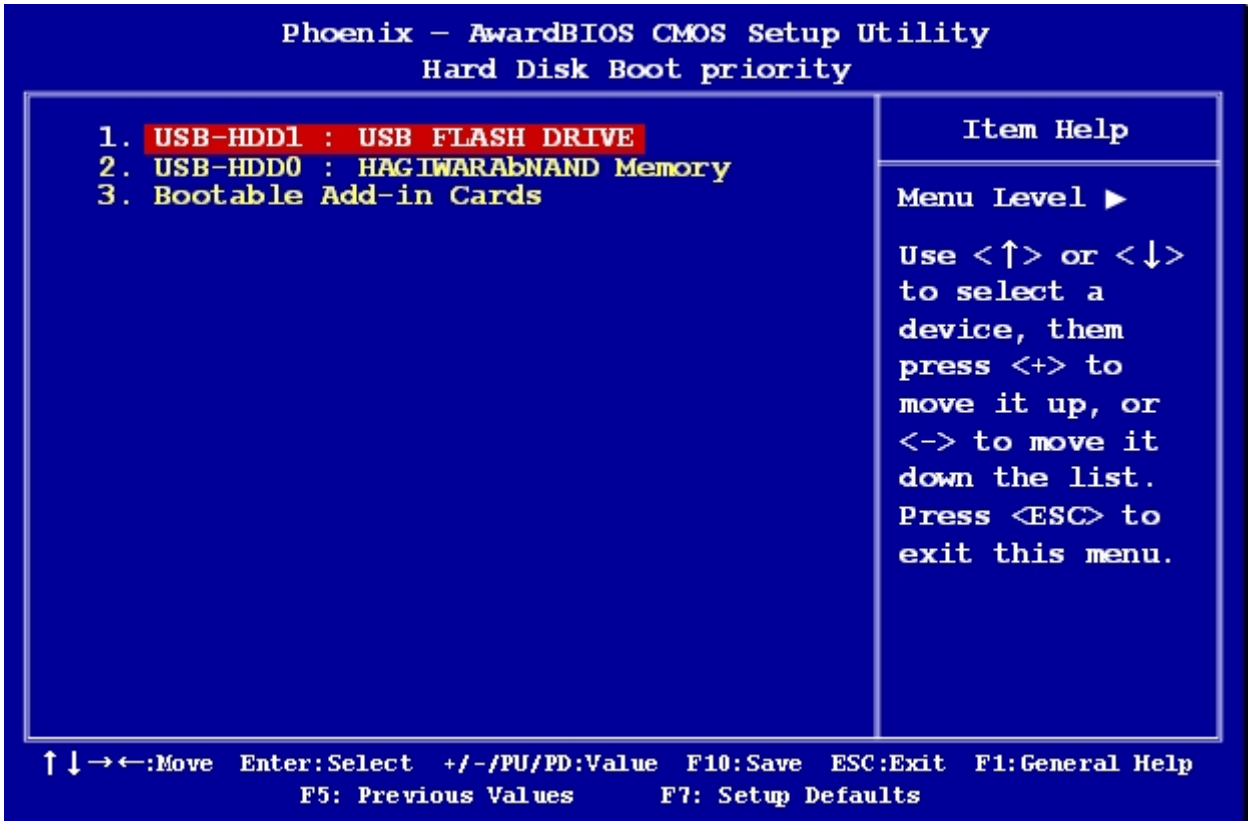


- Virtualization Technology

When enabled, a VMM can utilize the additional hardware capabilities provide by Vander pool Technology.

2.2.2.2 Hard Disk Boot Priority

Set hard disk boot device priority.


Phoenix – AwardBIOS CMOS Setup Utility
Hard Disk Boot priority
1. USB-HDD1 : USB FLASH DRIVE
2. USB-HDD0 : HAGIWARAbNAND Memory
3. Bootable Add-in Cards
Item Help
Menu Level ▶
Use <↑> or <↓> to select a device, them press <+> to move it up, or <-> to move it down the list. Press <ESC> to exit this menu.
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F7: Setup Defaults

2.2.2.3 Quick Power On Self Test

This allows the system to skip certain tests to speed up the boot-up procedure.

Item	Description
Enabled	Enable quick POST
Disabled	Normal POST

2.2.2.4 First / Second / Third Boot Device

The BIOS tries to load the OS from the devices in the sequence set here. The options are:

Item	Description
Floppy	Floppy Device
LS120	LS120 Device
HDD-0	First Hard Disk Device
SCSI	SCSI Device
CDROM	CDROM Device
HDD-1	Secondary Hard Disk Device
HDD-2	Third Hard Disk Device
HDD-3	Fourth Hard Disk Device
ZIP100	ZIP-100 Device
USB-FDD	USB Floppy Device
USB-ZIP	USB ZIP Device
USB-CDROM	USB CDROM Device
USB-HDD	USB Hard Disk Device
LAN	Network Device
Disabled	Disabled any boot device

2.2.2.5 Boot Other Device

Use this to boot another device. The options are "Enabled" and "Disabled".

2.2.2.6 Boot Up NumLock Status

Set the boot up Num Lock status. The options are "On" and "Off".

Item	Description
On	Enable NumLock
Off	Disable NumLock

2.2.2.7 Gate A20 Option

Item	Description
Normal	A pin in the keyboard controller controls GateA20
Fast	Lets chipset control GateA20 (Default)

2.2.2.8 Security Option

This category determines whether the password is required when the sys- tem boots up or only when entering setup. The options are:

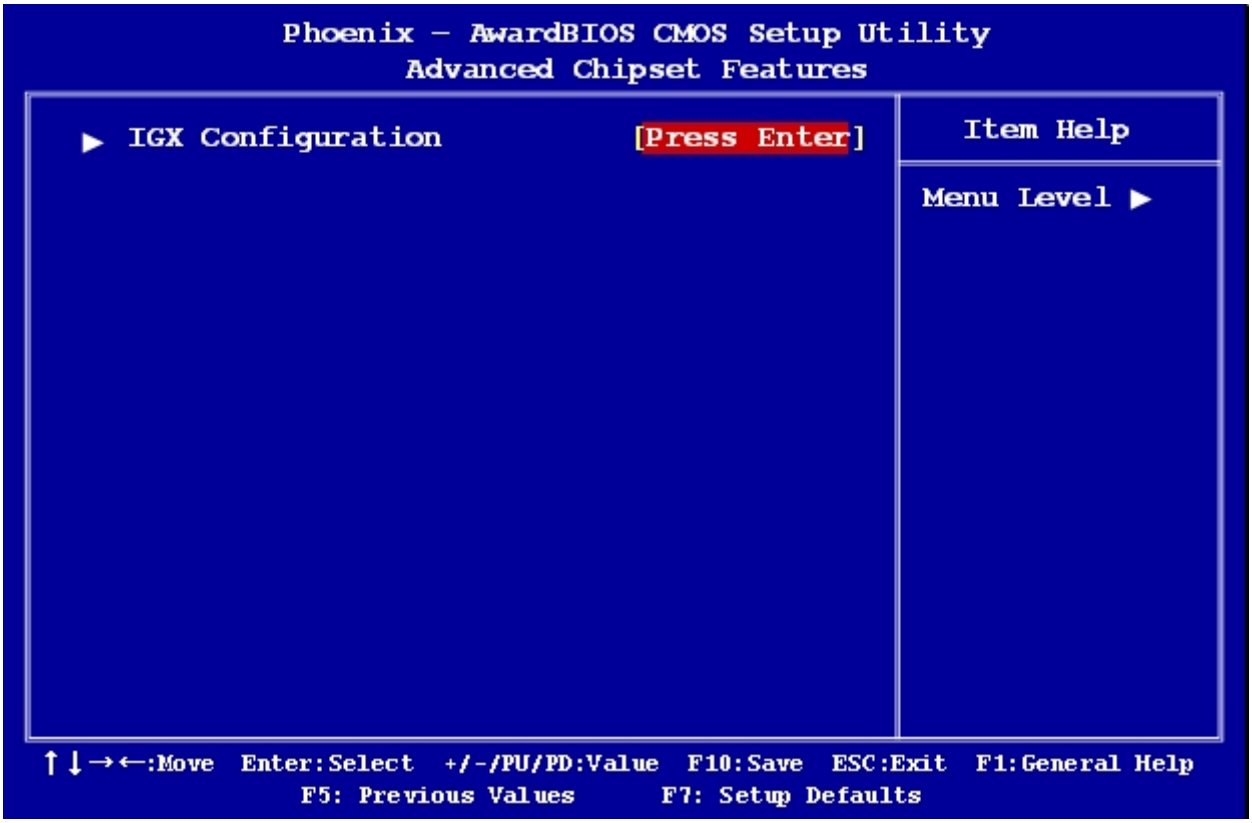
Item	Description
System	The system will not boot and access to Setup will be denied if the correct password is not entered at the prompt.
Setup	The system will boot, but access to Setup will be denied if the correct password is not entered at the prompt.

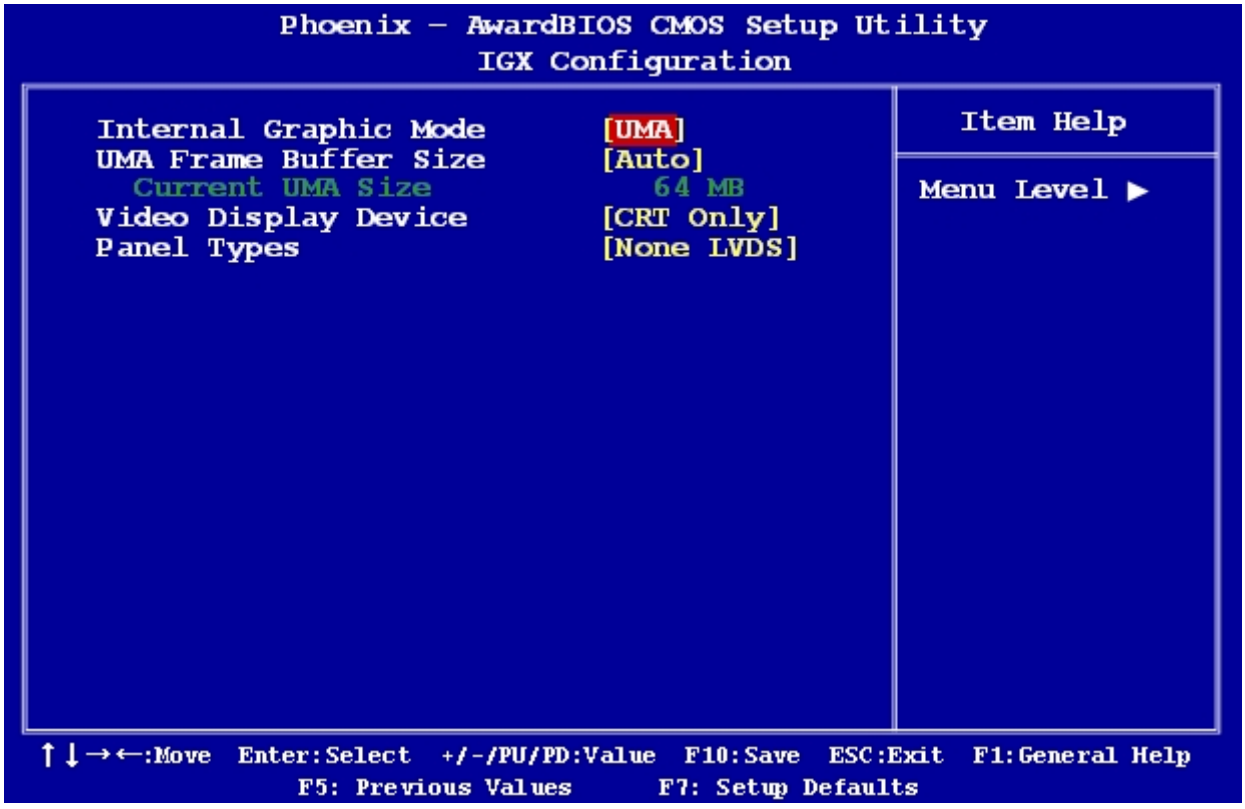
To disable security, select PASSWORD SETTING at Main Menu and then you will be asked to enter password. Do not type anything and just press <Enter>, it will disable security. Once the security is disabled, the system will boot and you can enter Setup freely.

2.2.2.9 APIC Mode

This setting allows you to enable the APIC mode. The choices are “Disabled” or “Enabled.”

2.2.3 Advanced Chipset Features


Phoenix – AwardBIOS CMOS Setup Utility
Advanced Chipset Features
▶ IGX Configuration [Press Enter]
Item Help
Menu Level ▶
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F7: Setup Defaults


Phoenix – AwardBIOS CMOS Setup Utility
IGX Configuration
Internal Graphic Mode [UMA]
UMA Frame Buffer Size [Auto]
Current UMA Size 64 MB
Video Display Device [CRT Only]
Panel Types [None LVDS]
Item Help
Menu Level ▶
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F7: Setup Defaults

2.2.3.1 UMA Frame Buffer Size

The options: Auto, 32MB, 64MB, 128MB, 256MB

2.2.3.2 Current UMA Size

The options: 32MB, 64MB, 128MB, 256MB

2.2.3.3 Video Display Device

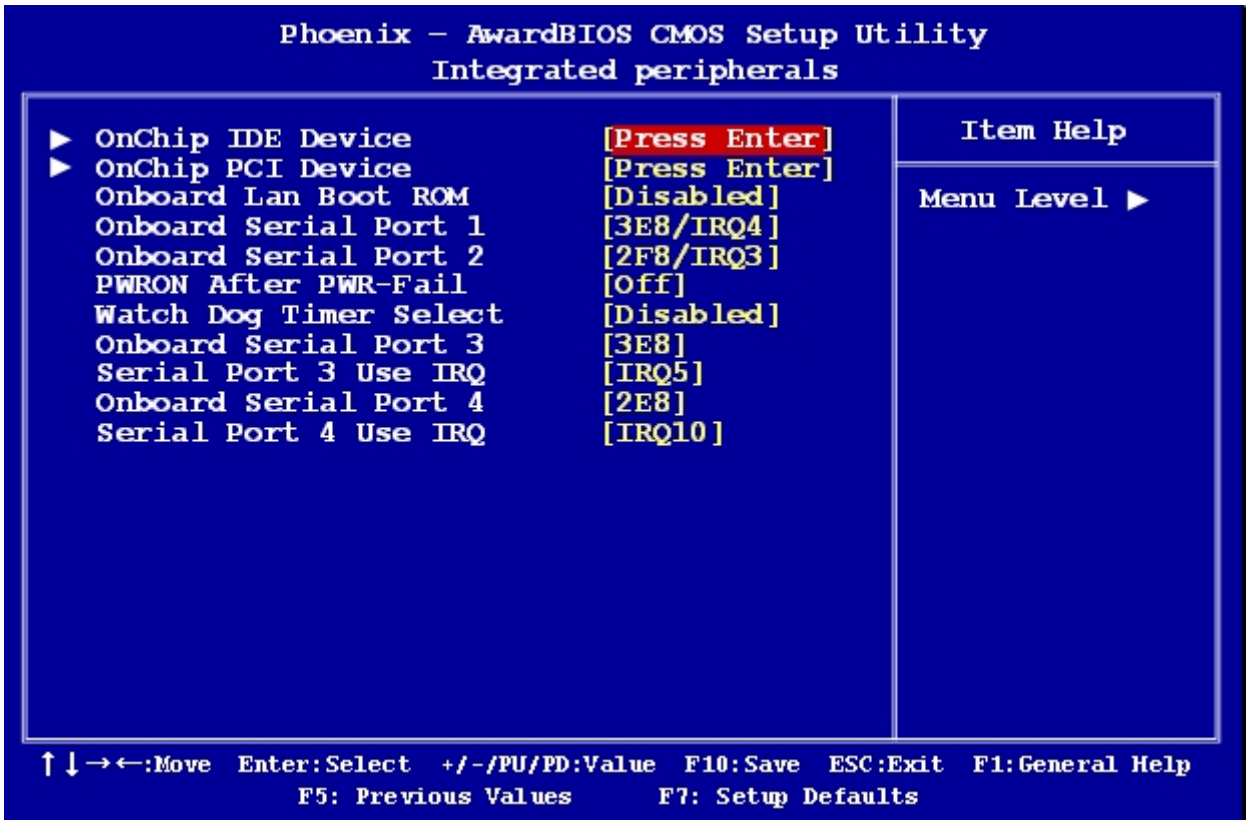
The options: CRT only, LCD only, DFP only, CRT + LCD, CRT + DFP, LCD + DFP

2.2.3.4 Panel Types

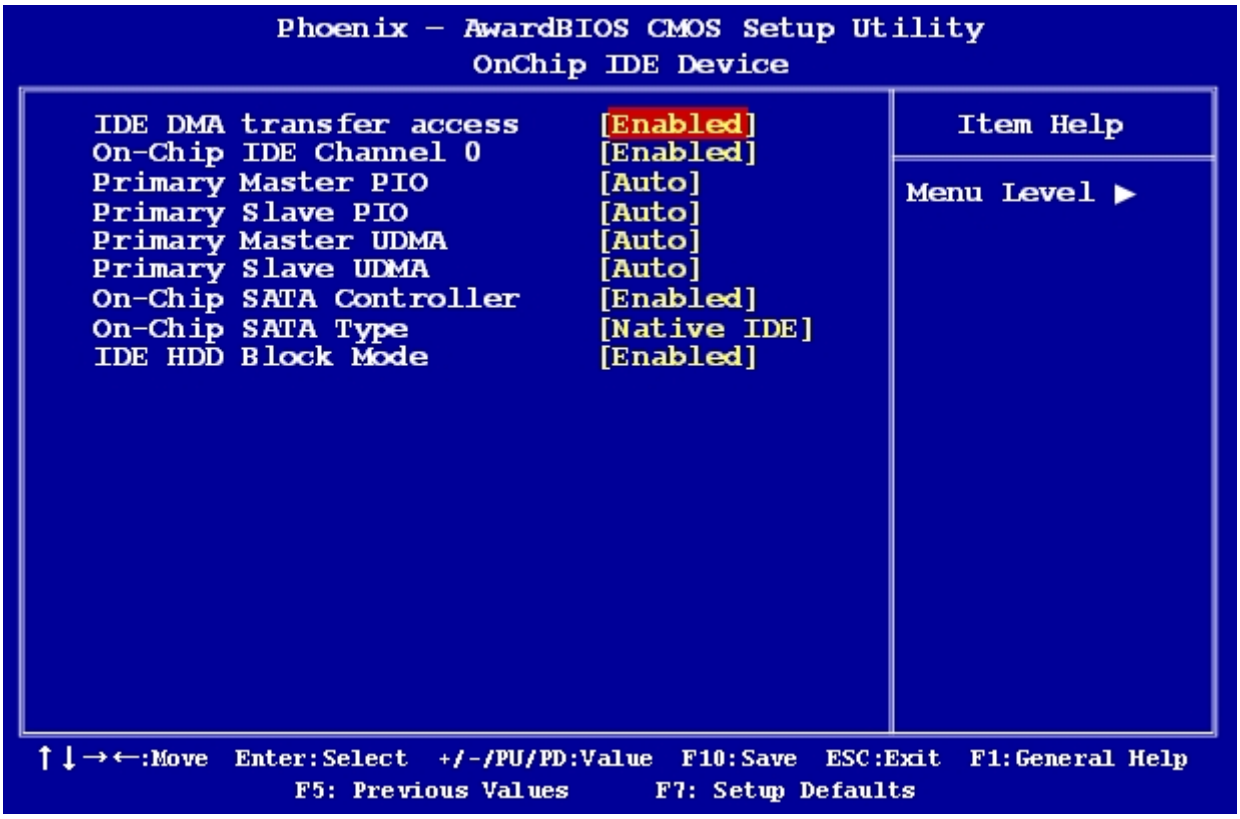
The options:
[None LVDS]
[640x480 18bits]
[800x600 18bits]
[1024x768 18bits]
[1280x600 18bits]
[1280x800 18bit]
[1280x1024 18bis]
[1400x1050 18bits]
[1600x1200 18bits]
[1680x1050 18bits]
[1920x1200 18bits]
[2048x1536 18bits]
[640x480 24bits]
[800x600 24bits]
[1024x768 24bits]
[1280x600 24bits]
[1280x800 24bit]
[1280x1024 24bits]
[1400x1050 24bits]
[1600x1200 24bits]
[1680x1050 24bits]
[1920x1200 24bits]
[2048x1536 24bits]

2.2.4 Integrated Peripherals

Use this menu to specify your settings for integrated peripherals.


Phoenix – AwardBIOS CMOS Setup Utility
Integrated peripherals
▶ OnChip IDE Device [Press Enter]
▶ OnChip PCI Device [Press Enter]
Onboard Lan Boot ROM [Disabled]
Onboard Serial Port 1 [3E8/IRQ4]
Onboard Serial Port 2 [2F8/IRQ3]
PWRON After PWR-Fail [Off]
Watch Dog Timer Select [Disabled]
Onboard Serial Port 3 [3E8]
Serial Port 3 Use IRQ [IRQ5]
Onboard Serial Port 4 [2E8]
Serial Port 4 Use IRQ [IRQ10]
Item Help
Menu Level ▶
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F7: Setup Defaults

2.2.4.1 OnChip IDE Device


Phoenix – AwardBIOS CMOS Setup Utility
OnChip IDE Device
IDE DMA transfer access [Enabled]
On-Chip IDE Channel 0 [Enabled]
Primary Master PIO [Auto]
Primary Slave PIO [Auto]
Primary Master UDMA [Auto]
Primary Slave UDMA [Auto]
On-Chip SATA Controller [Enabled]
On-Chip SATA Type [Native IDE]
IDE HDD Block Mode [Enabled]
Item Help
Menu Level ▶
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F7: Setup Defaults

- IDE DMA Transfer Access

Use this field to enable or disable IDE DMA transfer access.

- On-Chip IDE Channel

The options: Enabled, Disabled.

- Primary/Secondary Master/Slave PIO/UMDA

The channel has both a master and a slave, making four IDE devices possible. Because two IDE devices may have a different Mode timing (0, 1, 2, 3, 4), it is necessary for these to be independent. The default setting “Auto” will allow auto detection to ensure optimal performance.

- On-Chip SATA Controller

The options: Enabled, Disabled.

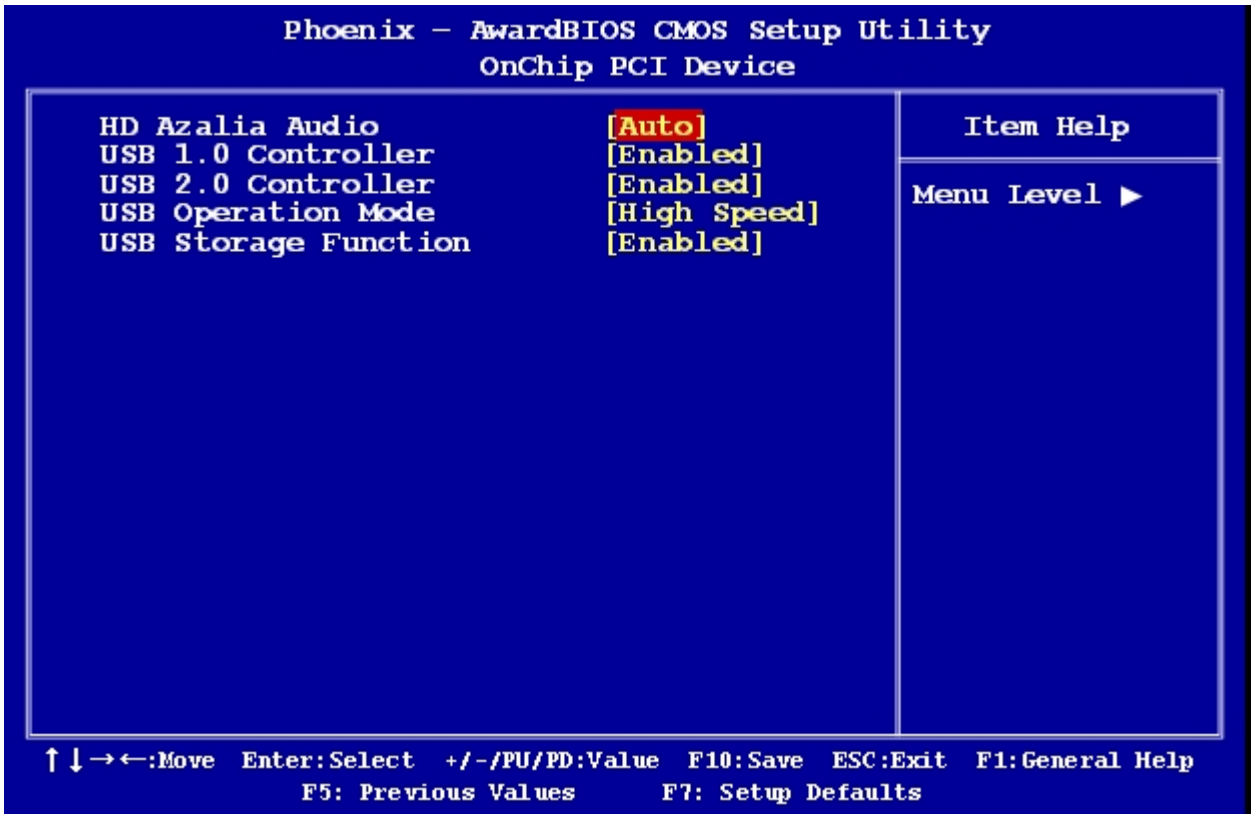
- On-Chip SATA Type

The options: Native IDE, RAID, AHCI, Legacy IDE, IDE->AHCI

- IDE HDD Block Mode

If the IDE hard drive supports block mode select Enabled for automatic detection of the optimal number of block read/writes per sector the drive can support.

2.2.4.2 OnChip PCI Device


Phoenix – AwardBIOS CMOS Setup Utility
OnChip PCI Device
HD Azalia Audio [Auto]
USB 1.0 Controller [Enabled]
USB 2.0 Controller [Enabled]
USB Operation Mode [High Speed]
USB Storage Function [Enabled]
Item Help
Menu Level ▶
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F7: Setup Defaults

- **HD Azalia Audio**

This item allows you to Enabled/Disabled Azalia/AC97 chipset.

The options: Auto, AC97 Audio only, Disabled.

- **USB 1.0 Controller**

This item allows you to set the USB Controller.

The options: Enabled, Disabled.

- **USB 2.0 Controller**

This item allows you to set the USB 2.0 Controller.

The options: Enabled, Disabled.

- **USB Operation Mode**

Allows you to configure the USB 2.0 controller in HiSpeed (480 Mbps) or Full Speed (12 Mbps). Configuration options: [Full/Low Speed] [HiSpeed]

- **USB Storage Function**

The choices: Disabled, Enabled.

2.2.4.3 Onboard LAN Boot ROM

The options are [disabled], [enable].

2.2.4.4 Onboard Serial Port

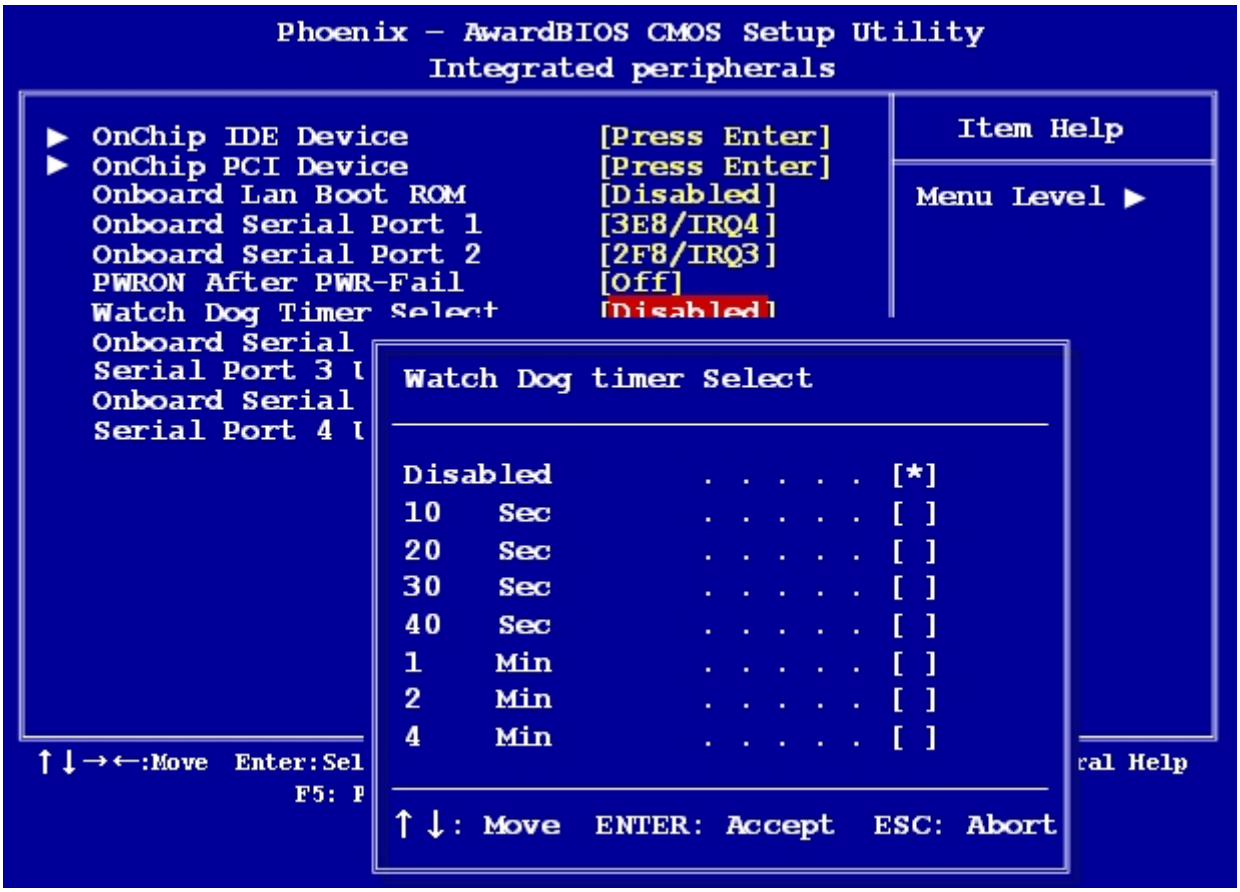
Select an address and corresponding interrupt for the first and second serial ports.
The choice: [Disabled], [3F8/IRQ4], [2F8/IRQ3], [3E8/IRQ4], [2E8/IRQ3], [AUTO]

2.2.4.5 PWRON After PWR-Fail

The options are [off], [on].

2.2.4.6 Watch Dog Timer Select

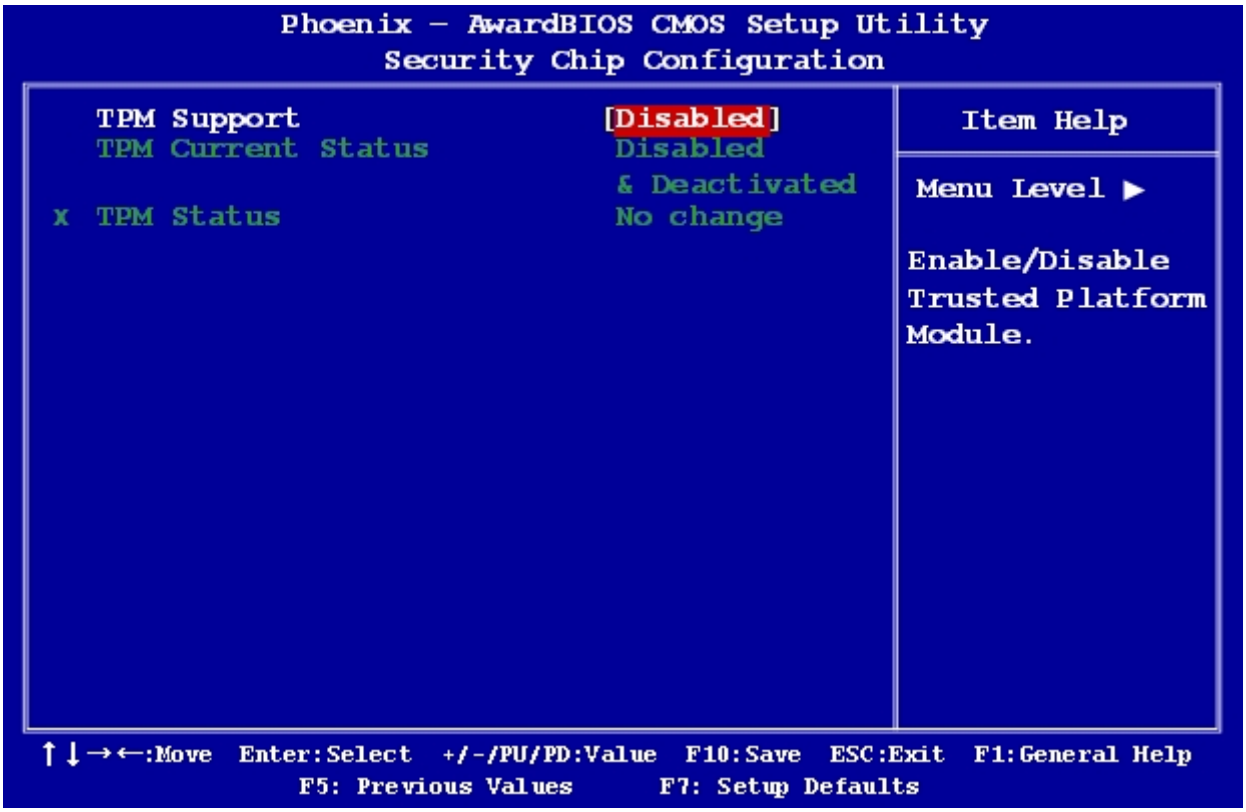
This option will determine watch dog timer. The choices: Disabled, 10, 20, 30, 40 Sec. 1, 2, 4 Min.


Phoenix – AwardBIOS CMOS Setup Utility
Integrated peripherals
OnChip IDE Device [Press Enter]
OnChip PCI Device [Press Enter]
Onboard Lan Boot ROM [Disabled]
Onboard Serial Port 1 [3E8/IRQ4]
Onboard Serial Port 2 [2F8/IRQ3]
PWRON After PWR-Fail [Off]
Item Help
Menu Level ▶
Watch Dog timer Select
Disabled [*]
10 Sec [ ]
20 Sec [ ]
30 Sec [ ]
40 Sec [ ]
1 Min [ ]
2 Min [ ]
4 Min [ ]
↑↓: Move ENTER: Accept ESC: Abort

2.2.4.7 Serial Port Use IRQ

Select an IRQ for the third, forth, fifth and sixth serial ports.
The options: IRQ3, IRQ4, IRQ5, IRQ9, IRQ10, IRQ11

2.2.5 Security Chip Configuration



2.2.5.1 TPM Support

The options: Enable, Disable

2.2.5.2 TPM Status

The options:

[No Change]: Keep current status

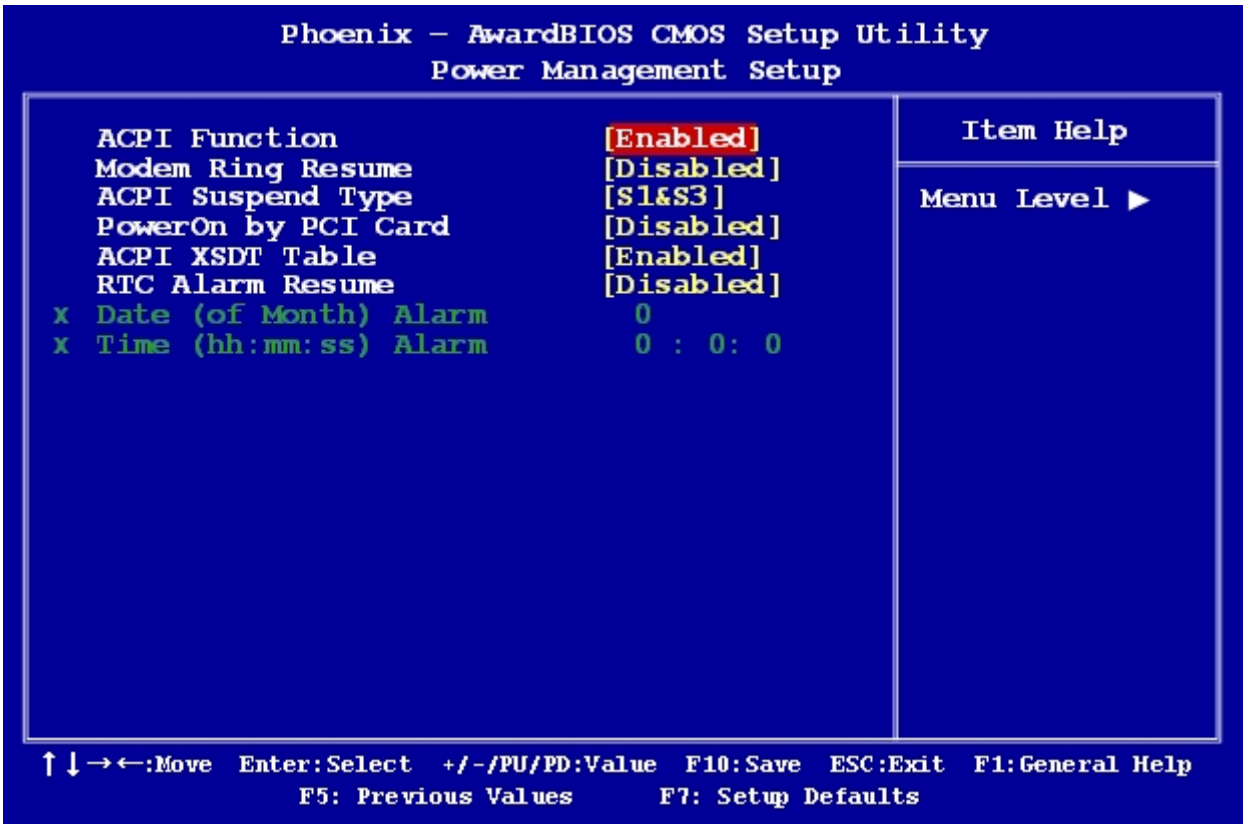
[Clear]: Rest configurations

[Enable & Activate]: TPM Enabling

[Deactivate & Disable]: TPM Disable

2.2.6 Power Management Setup

The power management setup controls the single board computer's “green” features to save power. The following screen shows the manufacturer’s defaults.


Phoenix – AwardBIOS CMOS Setup Utility
Power Management Setup
ACPI Function [Enabled]
Modem Ring Resume [Disabled]
ACPI Suspend Type [S1&S3]
PowerOn by PCI Card [Disabled]
ACPI XSDT Table [Enabled]
RTC Alarm Resume [Disabled]
x Date (of Month) Alarm 0
x Time (hh:mm:ss) Alarm 0 : 0: 0
Item Help
Menu Level ▶
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F7: Setup Defaults

2.2.6.1 ACPI Function

The choices are “Enabled” and “Disabled”.

2.2.6.2 ACPI Suspend Type

This item allows you to set ACPI suspend type to S1/POS(Power On Suspend) or S3/STR(Suspend To RAM).

2.2.6.3 PowerOn by PCI Card

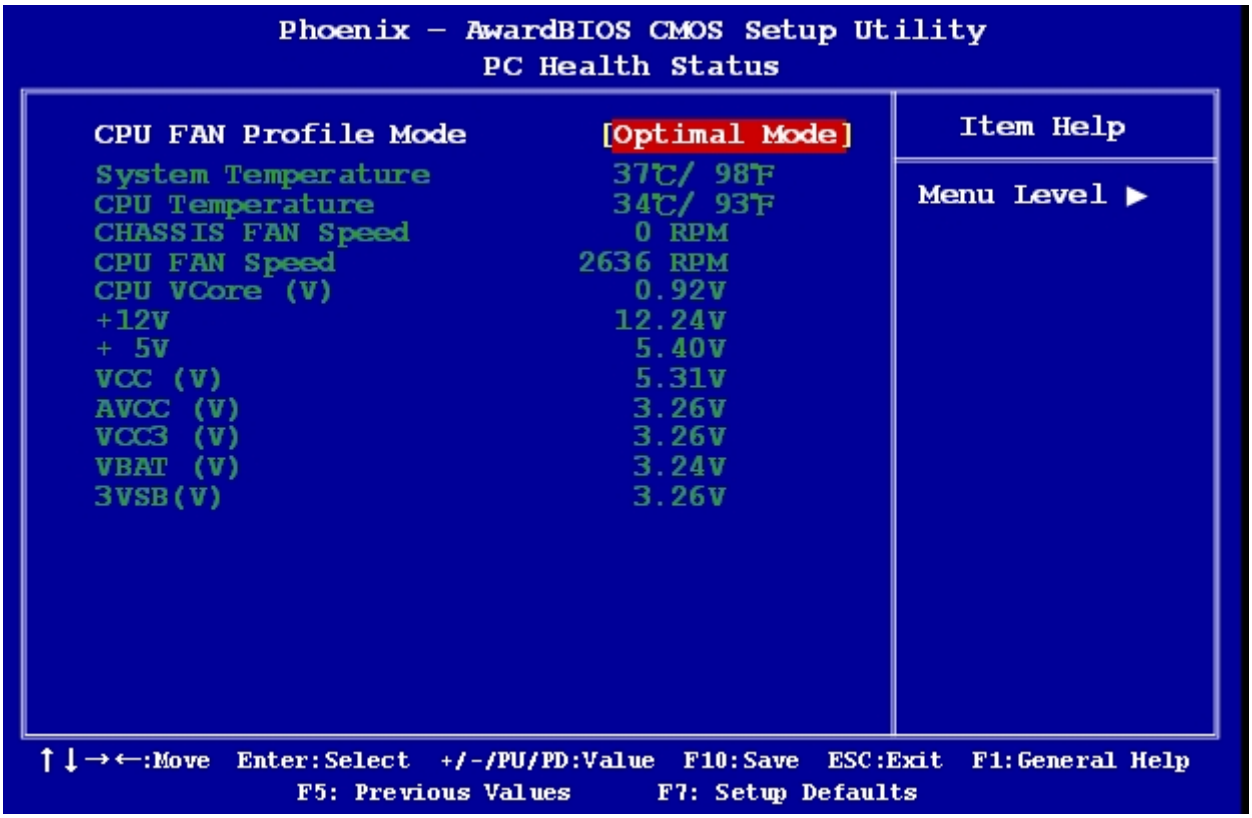
The choices are “Enabled” and “Disabled”.

2.2.6.4 RTC Alarm Resume

When “Enabled”, set the date and time at which the RTC (real-time clock) alarm awakens the system from suspend mode. The choices are “Enabled” and “Disabled”.

2.2.7 PC Health Status

This section shows the status of your CPU, Fan & System



2.2.7.1 CPU FAN Profile Mode

The options: Optimal / Silent /Performance / Disable

2.2.7.2 CPU Temperature Protect

This item allows you to set the CPU temperature that is decided when the system have to shut down to protect CPU. The options: 60℃/140℉, 65℃/149℉, 70℃/158℉, Disabled.

2.2.7.3 System Temperature

This shows you the current temperature of system.

2.2.7.4 CPU Temperature

This shows the current CPU temperature.

2.2.7.5 Chassis FAN Speed

This shows the Chassis FAN Speed (RPM).

2.2.7.6 CPU FAN Speed

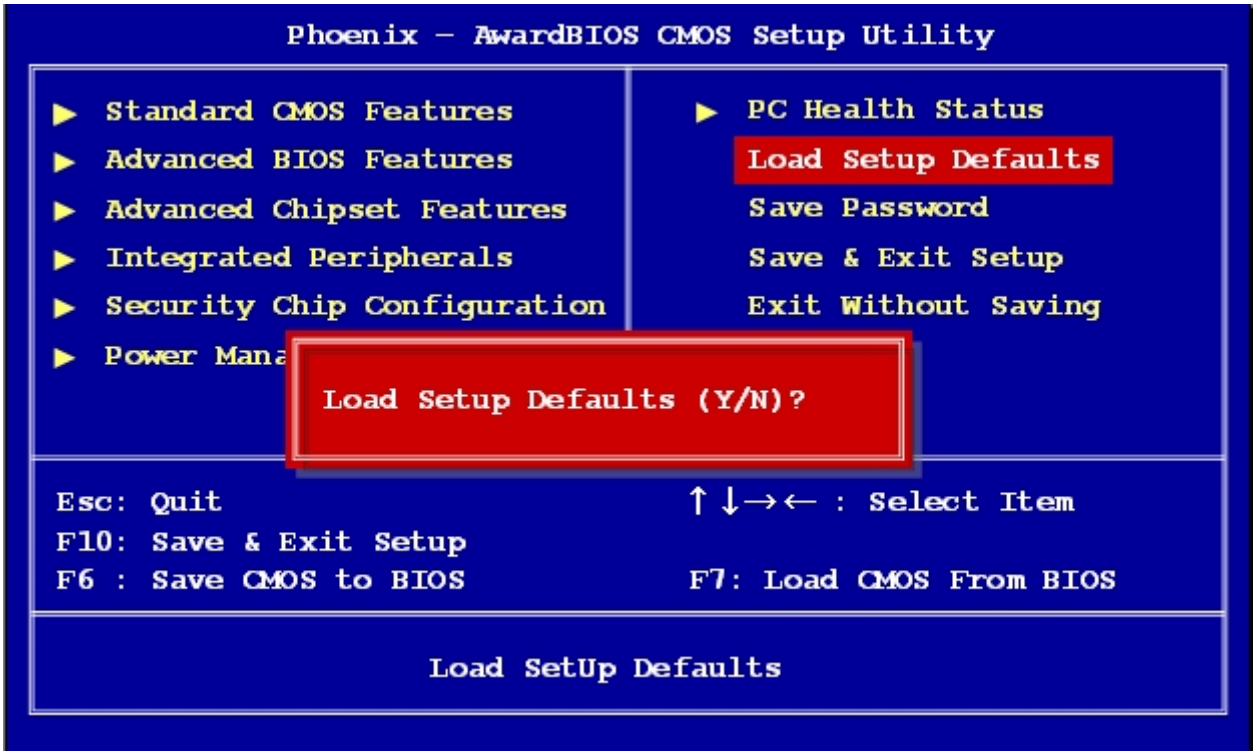
This shows the CPU FAN Speed.(RPM)

2.2.7.7 Vcore and Others Voltage

This shows the voltage of VCORE, +5V, +12V, VCC(V), VBAT(V), and 3VSB(V).

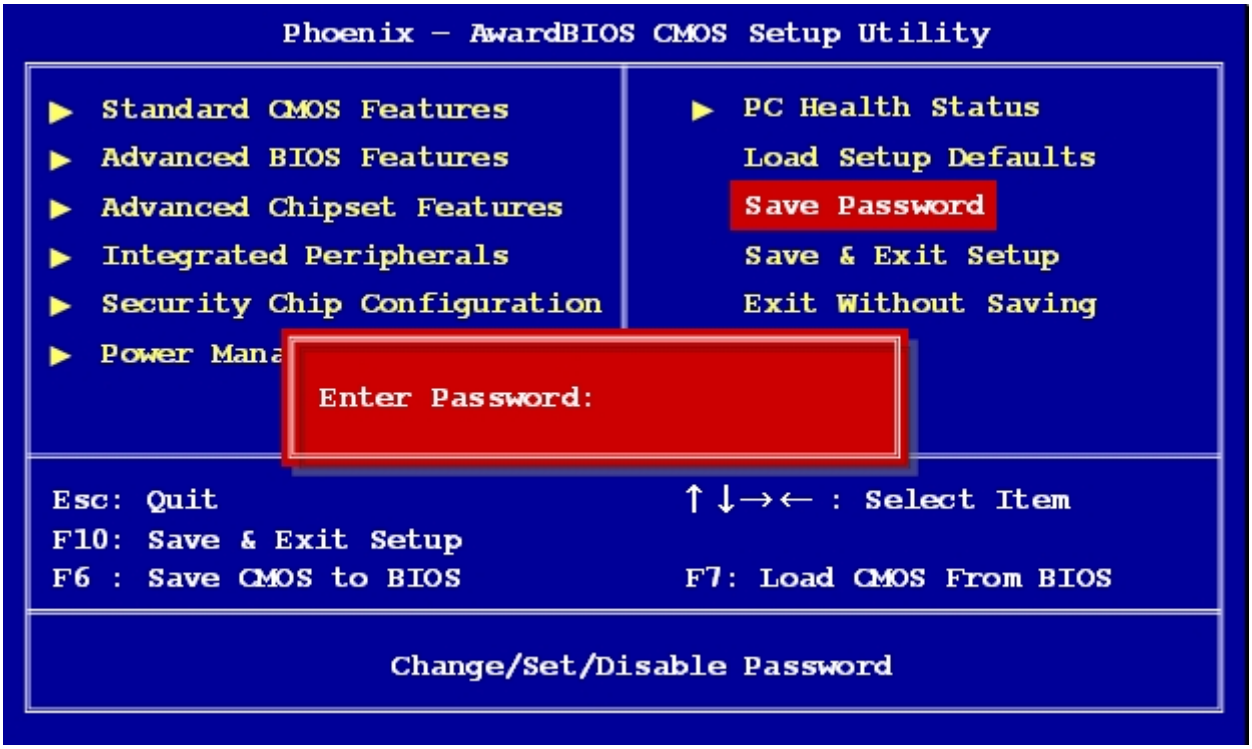
2.2.8 Load Setup Defaults

Use this menu to load the BIOS default values that are factory settings for optimal performance system operations. While Award has designed the custom BIOS to maximize performance, the factory has the right to change these defaults to meet their needs.
Press <Y> to load the default values setting for optimal performance system operations.



2.2.9 Save Password

You can set password. It is able to enter/change the options of setup menus.



Follow these steps to change the password.

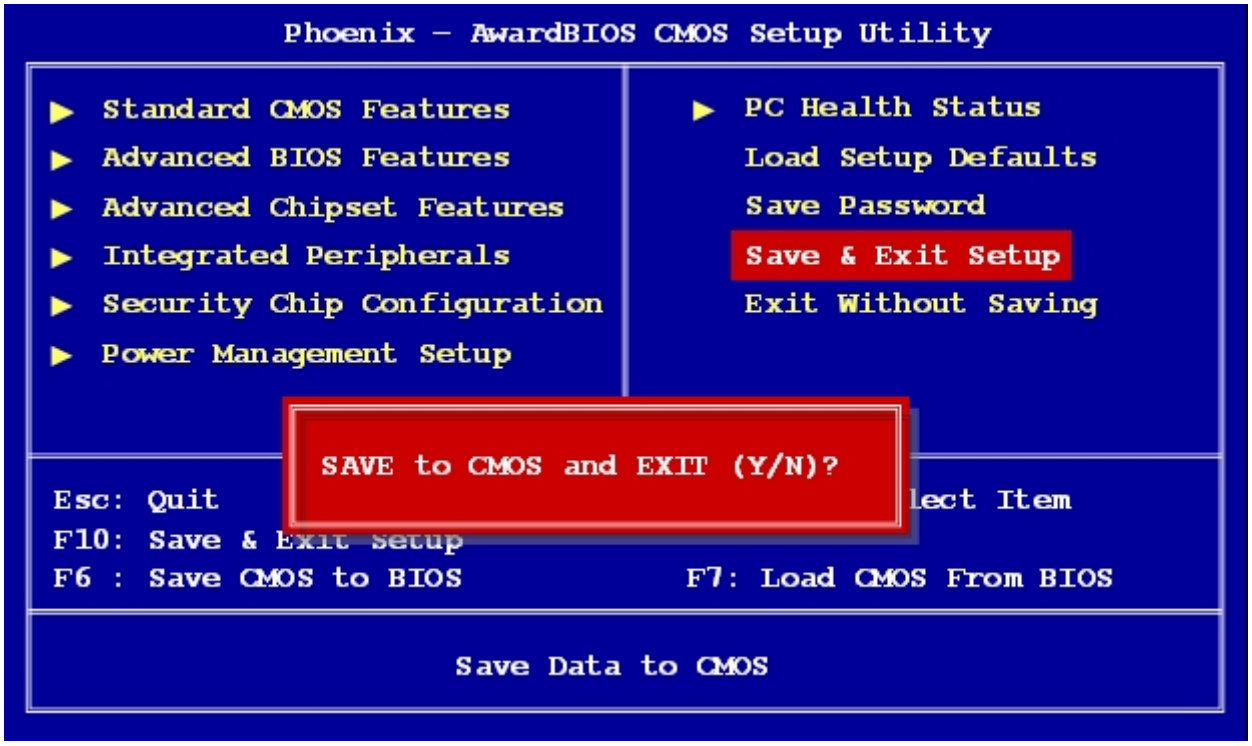
- Choose the “Set Password” option from the “Initial Setup Screen” menu and press <Enter>. The screen displays the following message:
- Please Enter Your Password
- Press <Enter>.
- If the CMOS is good and this option has been used to change the default password, the user is asked for the password stored in the CMOS. The screen displays the following message:

Please Confirm Your Password

- Type the current password and press <Enter>.
- After pressing <Enter> (ROM password) or the current password (user-defined), you can change the password stored in the CMOS. The password must be no longer than eight (8) characters. Remember, to enable the password setting feature, you must first select either “Setup” or “System” from the “Advanced BIOS Features” menu.

2.2.10 Save & Exit Setup

If you select this and press <Enter>, the values entered in the setup utilities will be recorded in the CMOS memory of the chipset. The processor will check this every time you turn your system on and compare this to what it finds as it checks the system. This record is required for the sys- tem to operate.



2.2.11 Exit Without Saving

Selecting this option and pressing <Enter> lets you exit the setup program without recording any new values or changing old ones.